

Asian Development Bank

PREPARATION AND PRESENTATION OF COST ESTIMATES  
FOR PROJECTS FINANCED  
BY  
THE ASIAN DEVELOPMENT BANK

**TECHNICAL NOTE**

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## CONTENTS

	<b>Page</b>
I. INTRODUCTION	1
II. DEFINITIONS	1
III. PREPARATION OF COST ESTIMATES	3
A. Software for Preparation of Cost Estimates	3
B. Main Project Cost Items	3
C. Base Costs	4
D. Contingencies	7
E. Financial Charges During Implementation	8
F. Exchange Rates and Inflation	10
G. Presentation of Cost Estimates in Main Body of RRP	11
H. Presentation of Detailed Cost Estimates in Core Appendix	12
I. Other Presentation Requirements	12
IV. PREPARATION AND PRESENTATION OF FINANCING PLAN	13
A. Preparation of Financing Plan	13
B. Presentation of Financing Plan	13

# PREPARATION AND PRESENTATION OF COST ESTIMATES FOR PROJECT FINANCED BY THE ASIAN DEVELOPMENT BANK<sup>1</sup>

## I. INTRODUCTION

1. This Technical Note provides instructions on the preparation and presentation of cost estimates and project financing plans for Asian Development Bank (ADB) projects<sup>2</sup> and should be read in conjunction with the *Financial Management and Analysis of Projects* (the Guidelines)<sup>3</sup>. The purpose of the note is to provide further guidance to the existing FM guidelines in light of recent changes in ADB lending and pricing policies.

## II. DEFINITIONS

2. Concepts and terms used in this Technical Note are defined as follows:

- (i) “ADB’s share in the project cost” means that portion of a project’s cost that ADB will finance.
- (ii) “Base cost estimate” means the expected project cost at the time specified, usually at the time of appraisal or negotiations. The base cost estimate assumes no changes in project cost due to the estimated quantity or price of project inputs.
- (iii) “Cap” or “interest rate cap” means, in respect to the floating interest rate, a ceiling that sets an upper limit for said floating interest rate.
- (iv) “Collar” or “interest rate collar” means, in respect to the floating interest rate, a combination of a ceiling and a floor that set an upper and lower limit for said floating interest rate.
- (v) “Country cost-sharing ceilings” are financing parameters that indicate the maximum share of cost ADB will finance with respect to an aggregate portfolio of projects in a developing member country (DMC), over the country partnership strategy period for that the relevant regional department in consultation with the relevant DMC, such ceilings are useful.
- (vi) “Expenditure category” means the classification of project inputs according to expenditure type. Expenditure categories include civil works, equipment and materials, land acquisition and rights-of-way, recurrent costs, and consulting services.
- (vii) “Financial charges during implementation”, or “interest and other charges during construction”, means the interest, front-end fees, commitment charges and premium on cap and collar, if any, on ADB loans or loans from cofinanciers to an ADB-financed project. The term “implementation” refers to the period of project

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<sup>1</sup> Once approved, this guidance will be incorporated into the next technical revision of the *Guidelines for the Financial Management and Analysis of Projects Financed by ADB*.

<sup>2</sup> ADB projects include, loans, grants and technical assistance.

<sup>3</sup> ADB. 2005. *Financial Management and Analysis of Projects*. Manila.

implementation; it is also the period before major benefits of the project begin to accrue.

- (viii) “Financing plan” means the plan which identifies the different sources<sup>4</sup> of financing of the project. If appropriate in relevant cases, it will also describe the different loan currencies and lending terms (i.e., short-term, medium-term, and long-term maturities).
- (ix) “Foreign exchange costs” means the sum of direct payments made in currencies other than the currency of the borrowing country for equipment and materials, consulting services, and contractors (including depreciation on imported plant and equipment).
- (x) “Local currency costs” means the local currency value of all goods and services that are procured for the project within the country.
- (xi) “Nominal prices” means the expression of monetary amounts (revenues and costs) in future price values that include the effects of expected general price inflation.
- (xii) “Physical contingency” means an allowance to reflect possible increases in the base cost estimates of a project due to changes in quantities, methods, and period of implementation.
- (xiii) “Price contingency” means an allowance to reflect forecast increases in the base cost estimates of a project due to changes in unit costs for the various project components and/or elements after the date of the preparation of base cost estimates.
- (xiv) “Project component” means the classification of project inputs according to completed outputs.
- (xv) “Project investment plan” means the summary of cost estimates of the project.
- (xvi) “Purchasing price parity” means the theory that exchange rates between currencies are in equilibrium when their purchasing power is the same in each of the two countries. As a result, the exchange rate between two countries should equal the ratio of the two countries’ price level of a fixed based basket of goods and services. Therefore, to maintain equilibrium, the exchange rate between two countries will change by the ratio in the inflation rates between these two countries.
- (xvii) “Taxes and duties” means value-added taxes, sales taxes excise taxes, import duties, and customs duties.
- (xviii) “Real prices” means the expression of monetary amounts (revenues and costs) in which any expected change in the general price level is omitted. When applied to project costs, all costs are expressed on the price basis prevailing as of a single date. Expected changes in relative prices are incorporated into the cost

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<sup>4</sup> This includes (a) the DMC, (b) other multilateral and bilateral agencies, (c) commercial banks, (d) private equity groups; (e) capital markets, and (f) ADB.

estimates through the application of price contingencies. An alternative expression for real prices is “constant prices”.

- (xix) “Recurrent costs” means those costs incurred during project implementation for goods and services consumed in the course of a budget year, and which must be regularly replaced.

### III. PREPARATION OF COST ESTIMATES

#### A. Software for Preparation of Cost Estimates

3. Detailed cost estimates are generally prepared using either COSTAB<sup>5</sup> or Microsoft Excel software. Originally developed by the World Bank and updated by ADB, COSTAB has been specifically designed to generate project cost tables, financing plans, and disbursement tables. Therefore, the use of COSTAB ensures that the presentation of the cost estimates meets ADB requirements for project preparation and appraisal. It also ensures that the various calculations required for the preparation of the costs, such as contingencies and interest and other charges during construction, are undertaken correctly. However, COSTAB does not provide the flexibility of Excel to prepare project specific tables and other outputs that may be required. This may be a particular disadvantage in preparing non-traditional projects, such as those financed under ADB’s multitranchise financing facility and its private sector financing window. Although COSTAB can generate output in Excel format, only the output values are exported to Excel. This can limit the ease in linking the cost estimates to other spreadsheets used for project preparation, such as the project entity financial projections. Furthermore, because COSTAB was originally designed on a DOS platform, even in its updated form, it is less user-friendly than Excel. For these reasons, a well-designed Excel based cost model can be superior to COSTAB, particularly for non-traditional projects. However, the use of COSTAB does provide an assurance that the calculation and presentation of the cost estimates will be undertaken properly and in accordance with ADB requirements.

#### B. Main Project Cost Items

4. Cost estimates are to be prepared and presented separately for each of the main project cost items. These are as follows:

- (i) **Base Cost.** Prepared on the basis of a detailed estimate of project inputs for each component and subcomponent.
- (ii) **Contingencies.** Consists of separate physical and price contingency allowances. Physical contingencies are calculated as a percentage of base cost components. Price contingencies are calculated by applying a projected cost escalation to the sum of the base cost and physical contingencies.
- (iii) **Financial Charges during Implementation.** Calculated on the basis of interest and other financing charges applicable on ADB loans and loans from cofinanciers, if any.

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<sup>5</sup> COSTAB (Standard Project Cost Table) was originally developed by the World Bank in the early 1980s. ADB has updated the software to run in a Windows 2000 environment. This update will also allow COSTAB to run in Windows XP. The current version of COSTAB can be downloaded from [www.adb.org/Projects/costab.asp](http://www.adb.org/Projects/costab.asp).

5. The preparation of costs for each of these items is discussed below.

### **C. Base Costs**

6. Base costs are to be prepared for each project component and subcomponent by expenditure category and expressed in domestic currency on a real price basis as of the date of preparation of the estimates. For each component and expenditure category, the base costs should be allocated to each year over the project implementation period on the basis of the year in which the costs are realistically expected to be incurred. A detailed worksheet for the development of base cost estimates is given in Appendix 1. For the purposes of Report and Recommendation of the President (RRP) presentation, these costs should then be translated into USD equivalents at the projected exchange rates during implementation.

7. If the price basis is more than six months old at the time of board consideration, the base costs should be updated prior to circulation. A re-appraisal of costs should be done if the presentation in the RRP is to be made more than 12 months after the specified date of preparation.

8. Recurrent costs may form part of social sector projects. It can include incremental government salaries, procurement of text books, and operation and maintenance costs. Recurrent costs included in the project are to be consistent with those defined as being eligible for ADB financing in Operations Manual (OM) Section H3 (Cost Sharing and Eligibility of Expenditures for ADB Financing) and staff instructions<sup>6</sup>. If recurrent costs are included in the project, they should be presented as a separate project component and, therefore, clearly distinguished from investment costs.

9. **Foreign Exchange and Local Currency Split.** Whenever feasible, the detailed base cost estimates are to be split into their foreign exchange and local currency components for cost estimates preparation purposes. Splitting costs between foreign exchange and local currency components is useful for the following reasons:

- (i) component prices are likely to vary between domestic and international markets, taking into consideration, among other things, varying tax rates between import and domestic sales taxes, freight, customs, etc.;
- (ii) computation of price contingencies will differ according to currency;
- (iii) differentiating between local and foreign costs facilitates the computation of economic internal rate of return, where costs are to be presented in border prices;
- (iv) having the detailed assumptions underlying the cost estimates will facilitate project management; and,
- (v) it highlights whether or not the project will be susceptible to foreign exchange risks during project implementation.

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<sup>6</sup> ADB. 2006. *Staff Instructions*. Cost Sharing and Eligibility of Expenditures for Asian Development Bank Financing. Manila (15 March).

10. The assumptions employed in the estimation of this split should be reviewed to ensure that they are appropriate. In many cases, the split is simply assumed to be the same as one or more previous projects in the same sector and country. However, the assumed split on these projects may have also been taken from earlier projects. In the past, with ADB lending being focused on financing foreign exchange costs, there had sometimes been a bias towards the possible overestimation of such costs relative to local currency costs. Therefore, a project specific assessment of the foreign exchange component in the base costs is required. A basis for estimating foreign exchange costs would be in reference to proposed project procurement arrangements<sup>7</sup>, specifically the estimated value of contracts to be procured under the international competitive bidding or limited international bidding methods and other contracts likely to be denominated in foreign currency.

11. **Domestic Currency Basis.** The preparation of the base costs in domestic currency is recommended because borrowers normally have a better appreciation of costs expressed in their domestic currency and the budgetary implications of the project. Furthermore, this will facilitate project supervision as project accounts and project accounting systems are likely to be maintained in domestic currency units. Expressing the costs in domestic currency is also required for the purposes of their incorporation into the economic analysis and project entity financial projections.

12. **Taxes & Duties.** Taxes and duties include excise taxes, sales taxes, value added taxes (VAT), import duties, and customs duties. The base cost estimates are to include taxes and duties applied to the base cost project inputs. However, the amount of taxes and duties included in the base cost estimate needs to be estimated to ensure that it is consistent with the threshold identified during the CPS preparation process. The separate estimation of taxes and duties is also required for the purposes of the project economic analysis.

13. Base cost estimates are normally prepared inclusive of taxes and duties. Therefore, the taxes and duties component of these base cost estimates should then be extracted from the total based on the applicable rates of tax and duty. However, the inclusion of taxes and duties in the base cost estimates should always be confirmed. In some cases, costs may be expressed exclusive of tax. For example, in some countries, it is standard practice to express prices exclusive of applicable VAT. Care should also be undertaken in confirming the basis for the application of each tax and/or duty to ensure that the estimates are complete. For example, taxes, particularly sales tax and VAT, are generally applied on total prices, which would include applicable duties and excise taxes.

14. It is important to identify the exact nature of the project related taxes and duties for the purposes of determining their eligibility for ADB financing under ADB's policy on cost sharing and eligibility for financing by ADB as given in OM Section H3 and staff instructions (footnote 6).

15. **Retroactive Financing of Project Costs.** Certain project costs may be retroactively financed by ADB. Costs proposed for retroactive financing are to be included in the cost estimates. The financial analyst should ensure that any borrower requests and justifications for retroactive financing are recorded in the *aide-mémoire* prepared during project identification, project preparation, and/or project appraisal, as well as in related reports issued on return to Headquarters. Refer to OM Section H4 (Retroactive Financing) for further guidance.

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<sup>7</sup> ADB 2007. *Project Administration Instructions: 3.01, Preparatory Work and Procurement Supervision*. Manila (13 Feb).

16. **Unit Cost & Quantity Estimates.** The base cost estimates should be prepared on the basis of quantitative estimates of project inputs. The quantity of each input is then multiplied by the estimated unit cost to derive the input base cost. Refer to Appendix 1 for an example of this approach. The quantity of each input should be based on the highest probability estimate. Allowances for increases above this most likely scenario are to be incorporated into the physical contingency. In most cases, project inputs within the same expenditure category can be grouped on a subcomponent basis for purposes of estimating quantities and unit costs. For example, the unit cost of a water transmission main, expressed as a cost per meter of constructed pipeline, might be estimated on an aggregated basis comprising the cost of goods, equipment, and labor and then multiplied by the length of the pipeline to derive the base cost. Although not always the case, the reliability of the cost estimates generally declines with greater levels of aggregation.

17. **Project Management, Capacity Development, & Consulting Services.** The preparation of the costs of project management, capacity development, consulting services, and institutional development should be undertaken on the same unit cost and quantity basis as for capital goods, such as civil works and equipment. Input quantities are normally estimated in terms of person-months by individual position or by skill group. Supporting costs, such as that for airfares, per diems, local travel, office equipment, office supplies, and communications, would then be estimated in relation to labor inputs or to the duration of the services. For example, airfares and per diems are estimated in relation to person-month inputs, while office supplies, communications, and local travel may be estimated on a monthly basis over the duration of the services.

18. For services requiring international expertise, the costs of airfares and per diems may be significant. Furthermore, there can be large variations in airfare costs depending on the country in which the international experts are resident. For the purposes of the cost estimates, airfare costs should be based on the maximum that could realistically be expected. This would normally assume a resident base in Europe or North America. For per diems, ADB's standard rates should be assumed for the purposes of the cost estimates.

19. **Steps in Preparation.** On the basis of the approach described above, the individual steps in the preparation of the base cost estimates are as follows:

- (i) Estimate the base costs in domestic currency on the basis of the unit costs, including taxes and duties, and estimated input quantitative described above. Where applicable, the foreign exchange component should be expressed in domestic currency at the exchange rate prevailing as of the preparation data of the cost estimates.
- (ii) Allocate the (indirect foreign exchange and local currency cost where applicable) base costs to each year over the project implementation period based on the implementation schedule and project cash flow requirements. The local currency equivalent of the foreign exchange costs should be calculated as the base cost as of the preparation date multiplied by the ratio of the exchange rate in each year to the exchange rate as of the preparation date. Refer to Part F of this note for the precise methodology to be employed.

- (iii) Convert the foreign exchange and local currency base costs in each year to a USD equivalent by dividing the local currency equivalent costs by the projected exchange rate in each year.

20. **Review of Estimates Prepared by Borrowers & Project Preparatory Technical Assistance (PPTA) Consultants.** If the base cost estimates are prepared by borrowers and/or PPTA consultants, they should be carefully reviewed by staff. The quality and reliability of these estimates can vary widely. Significant variations between costs estimated at appraisal and those actually incurred have been a major issue in ADB operations for years. A 2004 study of ADB projects completed since 1995 indicated that 35% had cost underruns of at least 20%, while 9% had cost overruns of at least 20%.<sup>8</sup> The same study found that an inaccurate estimation of base costs was cited by one third of the Project Completion Reports (PCR) as a reason for cost underruns.

21. The base cost estimates need to be prepared using actual market prices for the various project inputs prevailing at the time of preparation. Where possible, unit cost estimates should be checked against contract prices for ongoing or actual projects. While such information is generally available in larger countries for basic infrastructure projects, it may be less available in smaller countries or for less typical projects. Where contract prices are available, staff may need to assist PPTA consultants in accessing this information.

22. A particular cause for concern is when unit cost estimates are based on standard rates, prescribed by government or other authorities, because these may vary significantly from actual prices. Country specific factors may also create a bias toward the over or underestimation of costs. For example, in countries where the budgetary process for addressing cost overruns is complex and/or lengthy, there can be a bias toward cost overestimation. There can also be a bias toward the overestimation of base costs by PPTA consultants because there is a tendency to view overestimates as creating less project risk than underestimates. Therefore, base costs should be reviewed to assess whether they may actually incorporate an implied physical contingency allowance.

23. The projected expenditure profile should also be carefully reviewed to ensure that it reflects a realistically achievable implementation program. Reviewing the actual experience of past and ongoing projects funded by ADB or other donors provides one basis for such a review. In general, there is a bias toward the preparation of implementation schedules that are optimistic relative to actual experience. Expenditure profiles based on overly optimistic implementation schedules can result in an underestimation of the price contingency component of total project costs. This will also create project administration issues if actual loan or grant disbursements significantly lag behind the projected disbursements prepared at appraisal.

#### **D. Contingencies**

24. **Physical Contingency.** The physical contingency is a provision for uncertainty associated with quantities and categories of expenditures. Therefore, the greater the uncertainty, the greater the physical contingency allowance. Given that uncertainty may vary significantly between project components and subcomponents, or between expenditure categories, different allowances can be applied on this basis. Uncertainty also typically varies over the project preparation cycle. As the project design is refined over the preparation process

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<sup>8</sup> ADB. 2004. Doc. IN164-04, *Special Evaluation Study on Cost Estimates*. Manila (30 July).

progresses, uncertainty regarding the quantities of inputs should decline. By appraisal, the project design should have been refined to a level whereby physical contingences can be set in the range of 5–15%. However, cases may arise where more significant levels of uncertainty remain and, therefore, a greater physical contingency provision may be required.

25. The physical contingency is calculated as a percentage of base cost for each component, subcomponent, and expenditure category. As for base costs, physical contingencies should be estimated separately for foreign exchange and local currency costs, where applicable.

26. With respect to Sector Projects, OM D3 (Sector Lending) indicates that physical and price contingencies are not required. However, for candidate subprojects, contingencies must be computed and presented in the detailed cost estimates. If sufficient information is known with respect to the subprojects, it is suggested that contingencies be computed (on the basis of engineering estimates) with a footnote indicating that the taxes and duties and contingencies include estimates for future subprojects based on indicative cost estimates and will be re-calculated as subprojects are being evaluated.

27. **Price Contingency.** The price contingency is a provision for potential inflationary increases in costs over the implementation period of the project. Therefore, the price contingency provides for the conversion of the base costs, which are expressed in real prices, to a nominal price basis. The price contingency is comprised of a foreign and domestic component. The foreign price contingency reflects the potential impact of international inflation rates on foreign sourced procurement prices. The domestic price contingency reflects the potential impact of domestic inflation rates on domestically sourced procurement prices. The inflation rates to be used should be those maintained by Economic Analysis and Operations Support Division (EREA) and posted on the intranet site at the following: <http://lnadbq1.asiandevbank.org/erd0004p.nsf/>

28. The price contingency is calculated as a percentage of the sum of the base cost and physical contingency for each component, subcomponent, and expenditure category, where the percentage is the compounded inflation rate applicable to foreign exchange and local currency costs. An illustration of the calculation of these compounded rates is provided in Appendix 2.

## **E. Financial Charges During Implementation**

29. Financial charges during implementation comprise all financing charges during the project implementation period on loans or other forms of credit extended by ADB and by cofinanciers to an ADB financed project. At a borrower's request, ADB may finance interest during construction (IDC), and the ADB loan will include an amount corresponding to the interest and other charges payable by the borrower to ADB and cofinanciers during the construction of the project. IDC financing is not available for policy-based lending that does not involve project components or project construction periods. Each of these financing charges is discussed below.

30. **Interest.** IDC can be applied to project loans, sector loans, supplementary loans, the investment component of sector development program loans, and loans to development finance institutions. IDC is calculated on the basis of the maximum of: (i) the rate of relending to the project entity; and, (ii) the rate of interest applied by ADB and by cofinanciers, if any. Interest expense incurred during the construction period is considered to be a project cost regardless of whether it is paid by the project entity in each current period or capitalized. However, IDC

should be calculated only up to the point at which the constructed facilities are anticipated to be completed and begin to produce benefits. At this point, interest becomes an expense charged against current operations. IDC is not necessarily charged over the full project implementation period because certain components within a project may enter service prior to the completion of the overall project.

31. In the case of ADB's London Interbank Offered Rate (LIBOR)-based lending from its ordinary capital resources for loans approved or negotiated on or after 1 October 2007<sup>9</sup>, the interest rate should be taken as the LIBOR rate corresponding to the project implementation period plus the standard ADB spread of 0.20% (20 basis points). Therefore, given a typical project implemented over a five year implementation period, the appropriate rate to be applied would be the 6-month forward LIBOR rate for the next 5-year period plus the ADB spread less the sub-LIBOR rebate where applicable. The rates were maintained by the Treasury Department and found at the following: [www.adb.org/Documents/Brochures/Libor/indicative\\_rates.pdf](http://www.adb.org/Documents/Brochures/Libor/indicative_rates.pdf)

32. For the purposes of the cost estimates, IDC can be calculated on the basis of the average outstanding loan balance in each year over the project implementation period. The average outstanding balance can be estimated as the average of beginning year and ending year loan balance. Where IDC is capitalized, the loan balance would include the original principal drawdowns as well the capitalized interest from prior periods. The annual IDC is calculated as follows:

$$IDC_t = \frac{B_{t0} + B_{t1}}{2} \times i$$

Where:

- IDC = Interest during construction in Year t
- B<sub>0</sub> = Loan balance at beginning of Year
- B<sub>1</sub> = Loan balance at end of Year
- i = Interest rate

33. Total IDC is the sum of the annual IDC over the project implementation period. In cases where the proceeds of a foreign currency ADB loan are relented to the project entity in local currency at an interest rate exceeding the rate on the ADB loan, there is both a foreign exchange and local currency component to IDC. Total IDC is calculated on the relending rate. The foreign exchange component is the rate applied by ADB. The local currency component is the difference between total IDC and the foreign exchange component.

34. **Front-End Fee.** ADB normally charges a front-end fee of 1% on its ordinary capital resources loans to cover the administrative costs incurred in loan origination. This represents a one time fee paid by borrowers once loans become effective. ADB has waived 100% of the front-end fee since 2004. On December 2007, ADB Board of Directors approved the elimination of front-end fees. For the purpose of this technical note, which may also be used as guidance in

<sup>9</sup> As defined in Treasury Department Memorandum dated 7 December 2007, Revised Loan Charges for OCR Sovereign Loans.

reviewing PCRs, the front-end fee, where applicable is calculated on the total loan amount, which includes the front-end fee. Therefore, the fee was previously calculated as follows:

$$FEF = \frac{L_x}{1 - FE} - L_x$$

Where:

- FEF = Monetary amount of front-end fee
- $L_x$  = Loan amount excluding front-end fee
- FE = Front-end fee as a fraction of 1.00; therefore 1% fee expressed as 0.01

35. **Commitment Fees.** ADB applies a commitment fee on undisbursed loan balances. Program and project loans negotiated on or after 1 October 2007 will be charged a commitment fee of 0.15% (15 basis points). For the purposes of the cost estimates, the undisbursed balance can be estimated as the average of the projected undisbursed balance at the beginning and end of each year over the project implementation period. On this basis, the estimated annual commitment fee is calculated as follows:

$$CF = \frac{U_0 + U_{t1}}{2} \times R$$

Where:

- CF = Commitment fee
- $U_0$  = Undisbursed loan balance at beginning of Year
- $U_1$  = Undisbursed loan balance at end of Year
- $R$  = Rate

36. The total commitment fee is the sum of the annual commitment fee amounts due over the project implementation period. In the case of ADB LIBOR-based loans, the commitment fee is considered a foreign exchange cost.

37. **Premium on Cap and Collar.** Should the borrower purchase a cap or collar, either on the ADB loan or on loans from cofinanciers on ADB funded projects, the estimated premium payable, if any, is to be included in interest and other charges during construction. As for IDC, the estimated premium amount for each year over the project implementation period is calculated on the basis of projected average outstanding loan balance. This average balance can be estimated as the average of the beginning and ending balance in each year.

## F. Exchange Rates and Inflation

38. **Exchange Rates.** Unless otherwise instructed by EREA, cost estimates should be prepared under the assumption that exchange rate movements are determined entirely by the purchasing power parity (PPP) theory. Given this assumption, the annual change in the rate of exchange between the domestic and foreign currency is the same as the ratio of the domestic and foreign inflation rates. For example, if the foreign inflation is 4% while the domestic rate is

7%, purchasing power parity is maintained if the domestic currency depreciates against the foreign currency as follows:

$$\left[ \frac{1.07}{1.04} \right] - 1 = 2.9\%$$

39. Given PPP, the projected exchange rate in each year over the project implementation period is calculated as follows:

$$ER_{t+1} = ER_t \times \left[ \frac{1 + D_{t+1}}{1 + F_{t+1}} \right]$$

Where:

- ER<sub>t</sub> = Exchange rate in Year t
- ER<sub>t+1</sub> = Exchange rate in Year t+1
- D<sub>t+1</sub> = Domestic inflation in Year t+1
- F<sub>t+1</sub> = Foreign inflation in Year t+1

40. The inflation rates to be used should be those maintained by EREA and posted on the intranet site at the following: <http://lnadbg1.asiandevbank.org/erd0004p.nsf/>

41. Projecting future exchange rates on the basis of PPP may not be appropriate in all cases. Exchange rates often do not move precisely in line with PPP, particularly over the shorter-term. PPP is based on the assumption that goods and services are tradable between countries, but project inputs actually consist of a mix of tradable and non-tradable goods and services. The theory also assumes that exchange rates are entirely market determined, but exchange controls and other forms of currency management by governments and their central banks limit the role of the market in determining rates. As a result, inflation rate differentials often do not fully determine exchange rate movements.

42. **Inflation.** Cost estimates should be prepared in nominal terms, taking into account the potential impact of domestic and international inflation and foreign exchange gains and/or losses which may occur as a result of projected exchange rate fluctuations.

#### IV. PRESENTATION OF COST ESTIMATES

##### A. Presentation of Cost Estimates in Main Body of RRP

43. Cost estimates in the main body of the RRP are to be summarized and presented in the Project Investment Plan table. The costs are presented in million USD equivalents in three parts as follows:

- (i) Part A–Base Cost. Presented by component (i.e., Irrigation Component, Agriculture Extension Component, Project Management Component, etc.,).
- (ii) Part B–Contingencies. Presented separately by physical and price contingencies.

- (iii) Part C—Financial Charges during Implementation. Presented as a single line item incorporating all applicable financing charges during project implementation.

44. Only total costs should be shown in this summary table. There is no requirement to present the breakdown between foreign exchange and local currency costs in this table. Footnotes to the table should be provided indicating the basis for the cost estimates, the amount of taxes and duties included in the local currency costs, the assumptions used to compute physical and price contingencies and the basis for computation of interest and other charges during construction. Appendix 3 provides a sample.

45. As taxes and duties are a cost expenditure category, rather than a specific component, they should not be presented in the main table but should be disclosed by way of a footnote.

## **B. Presentation of Detailed Cost Estimates in Core Appendix**

46. In addition to the summary cost estimates in the main body of the RRP, more detailed cost estimates should be presented in a core appendix to the RRP. To ensure that the detailed cost estimates provides additional and meaningful information to the reader of the RRP, they should be presented by expenditure category (civil works, equipment, land acquisition, consulting services, taxes and duties, etc.). Categories used in the detailed cost estimates should directly correlate to the disbursement schedules—Schedule 3 in the loan agreement and Schedule 2 in the grant agreement. In addition, the costs should be presented in both domestic currency units and their USD equivalents to enable the reader to track cost estimates to the financial projections and/or Financial Internal Rate of Return computation, if applicable. Footnotes are not needed for the appendix, as the information has already been provided in the main body of the RRP. Appendix 4 provides a sample.

47. For the detailed cost estimates, taxes and duties are treated as an expenditure category and therefore must be presented as a separate line item within the total base cost line.

## **C. Other Presentation Requirements**

48. Detailed cost estimate tables, either produced by COSTAB or standalone project specific Excel spreadsheets should be attached to the Project Administration Memorandum. The Mission may also wish to make these available by way of Supplementary Appendix. For example, the detailed estimation of the base cost estimates discussed earlier in this note may be presented as a Supplementary Appendix as shown in Appendix 1.

49. These cost estimates, and the models used to prepare them should be retained as part of ADB's official project preparation documentation. Digital copies of relevant Excel models and COSTAB files and printouts should be retained on CD ROM in the project files and should be available to support project implementation, PCR preparation and Project Performance Audit Report preparation.

## V. PREPARATION AND PRESENTATION OF FINANCING PLAN

### A. Preparation of Financing Plan

50. The financing plan is generally prepared using the same software used for the preparation of the cost estimates. Therefore, if COSTAB is used for the preparation of the project costs, it should also be used to generate the financing plan. Alternatively, the cost estimates and financing plan can be prepared using Microsoft Excel. If Excel is used, the cost estimates and financing plan should both be incorporated within a single file or linked files with the project costs flowing through automatically into the financing plan. Using separate unlinked files is less efficient and increases the potential for inconsistencies between the cost estimates and financing plan.

51. The financing plan should be prepared on both a project component and expenditure category basis and expressed in both a local currency basis as well as their USD equivalents. The cost of each component and category is allocated to the various sources of financing for the project. This would include ADB, any cofinanciers, commercial lenders, government contributions, investor equity purchases, internally generated funds from the project entity, and contributions by project beneficiaries. The estimated disbursement by each financing source against each component and category is then calculated using the project costs and agreed financing percentages.

52. The preparation of proposed financing arrangements for each expenditure category are to be based on ADB's policy on cost sharing and eligibility for financing by ADB as given in OM Section H3 and staff instructions (footnote 6).

### B. Presentation of Financing Plan

53. Presentation requirements for the project financing plan in the RRP are outlined below. The project financing plan is to be presented in the RRP as described below.

54. **Summary Financing Plan.** A summary financing plan is to be presented in the Loan/Grant and Project Summary of the RRP as well as in the main body of the RRP. In most cases, the content and presentational format of both plans can be the same. The plan should identify each source of financing for the project together with the amount of such financing, expressed in USD equivalents. Financing includes all sources of funds allocated to the coverage of the project cost. Therefore, this would include loans, credits, equity contributions, grants, and internally generated funds from the project entity. The sum of financing provided from each source must equal the estimated total project cost. Appendix 3 provides a sample of the summary financing plan.

55. **Financing Plan Presented in Core Appendix.** A more detailed presentation of the financing plan is to be provided in a core appendix to the RRP. Normally, the same appendix should be used for both the presentation of the financing plan and the detailed cost estimates. Like the detailed cost estimates, the detailed financing plan will be expressed in USD equivalents and provide a breakdown of financing sources by expenditure category. However, unlike the detailed cost estimates, there is no requirement to separate foreign exchange and local currency costs in the presentation. Furthermore, while the cost estimates provide a separate presentation of base cost, physical contingency, and price contingency, the financing

plan should aggregate base cost and contingencies into a single line item. Appendix 4 provides a sample of the detailed financing plan.

56. **Financing Plan Presented in Supplementary Appendix.** A detailed financing plan can be presented in a supplementary appendix to the RRP as required. This can include the more detailed tables generated from COSTAB or an Excel model that is included in the core appendix to the RRP. This should include a presentation of the financing plan by project component.

### Example of Preparation of Detailed Base Cost Estimates

(CNY thousand)

Cpt No Description	Unit	Qty	Unit Rate	Sub-Total					Fore -ign %	Foreign Exch	Local Currency	Totals (inc tax)	Taxes & Duties		Totals (excl tax)
				Civil Works	Equip -ment	Services	Land	Recurrent					Total	%	
<b>2 Water Supply Development</b>															
<b>2.1 Weir and Intake</b>															
2.1.1 Upgrade existing earth track	LS	1	5.0	5.0	0.0	0.0	0.0	0.0	50	3.0	2.0	5.0	0.5	12	4.0
2.1.2 Concrete weir & mesh cover to spring source	LS	1	150.0	150.0	0.0	0.0	0.0	0.0	50	100.0	50.0	150.0	16.0	12	134.0
2.1.3 Miscellaneous items	LS	1		19.0	0.0	0.0	0.0	0.0	50	10.0	9.0	19.0	2.0	12	17.0
<b>Subtotal for Spring Intake</b>				<b>174.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>113.0</b>	<b>61.0</b>	<b>174.0</b>	<b>19.0</b>		<b>155.0</b>
<b>2.2 Water Treatment Plant (1,200 m<sup>3</sup>/day)</b>															
2.2.1 Gravel access road to WTP (2000mx5m) (Provisional)	m	2000	0.5	900.0	0.0	0.0	0.0	0.0	50	450.0	450.0	900.0	96.0	12	804.0
2.2.2 Excavation and Earthworks for WTP	LS	1	35.0	35.0	0.0	0.0	0.0	0.0	40	14.0	21.0	35.0	4.0	12	31.0
2.2.3 Receiving Well	LS	1	20.0	20.0	0.0	0.0	0.0	0.0	41	8.0	12.0	20.0	2.0	12	18.0
2.2.4 Rapid Gravity Filters (2units x5 m <sup>2</sup> )including pipes, valves, underdrains and accessories	LS	1	257.0	257.0	0.0	0.0	0.0	0.0	70	180.0	77.0	257.0	27.0	12	229.0
2.2.5 Backwash System from raw water transmission main incl pipes and accessories	LS	1	60.0	60.0	0.0	0.0	0.0	0.0	70	42.0	18.0	60.0	6.0	12	54.0
2.2.6 Electrical and Control Boards, incl installation (Provisional)	LS	1	140.0	60.0	80.0	0.0	0.0	0.0	80	112.0	28.0	140.0	18.0	15	122.0
2.2.7 Clear Water Tank (100 m <sup>3</sup> ), including pipes, valves and fittings	LS	1	162.0	162.0	0.0	0.0	0.0	0.0	70	113.0	49.0	162.0	17.0	12	145.0
2.2.8 Chemical Dosing, including chlorine feed house, feed system, pumps, pipes and valves (Provisional)	LS	1	20.0	5.0	15.0	0.0	0.0	0.0	80	16.0	4.0	20.0	3.0	15	17.0
2.2.9 Plant Office (12mx8m)and Laboratory, including laboratory equipment	LS	1	230.0	180.0	50.0	0.0	0.0	0.0	60	138.0	92.0	230.0	30.0	15	200.0
2.2.10 WTP Outdoor Works, incl internal roads, drainage and lighting	LS	1	380.0	350.0	30.0	0.0	0.0	0.0	60	228.0	152.0	380.0	41.0	12	339.0
2.2.11 WTP metalwork incl ladders and handrails	LS	1	260.0	220.0	40.0	0.0	0.0	0.0	70	182.0	78.0	260.0	28.0	12	232.0
2.2.12 Sludge Handling and Disposal incl drains and discharge pipe	LS	1	10.0	10.0	0.0	0.0	0.0	0.0	60	6.0	4.0	10.0	1.0	12	9.0
2.2.13 Miscellaneous and general items	LS	1	0.0	271.0	26.0	0.0	0.0	0.0	60	178.0	119.0	297.0	32.0	12	265.0
<b>Sub-Total Water Treatment Plant</b>				<b>2,530.0</b>	<b>241.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>1,667.0</b>	<b>1,104.0</b>	<b>2,771</b>	<b>305</b>		<b>2,465</b>
<b>2.3 Main Office, Storage and Workshop</b>															
2.3.1 PNP branch office	LS	1	190.0	180.0	10.0	0.0	0.0	0.0	60	114.0	76.0	190.0	20.0	12	170.0
2.3.2 Workshop and store	LS	1	50.0	40.0	10.0	0.0	0.0	0.0	60	30.0	20.0	50.0	5.0	12	45.0
2.3.3 Outdoor works	LS	1	50.0	50.0	0.0	0.0	0.0	0.0	50	25.0	25.0	50.0	5.0	12	45.0
2.3.4 Miscellaneous items	LS	1	0.0	32.0	2.0	0.0	0.0	0.0	60	20.0	14.0	34.0	4.0	12	30.0
<b>Sub-Total Office, Store, Workshop</b>				<b>302.0</b>	<b>22.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>189.0</b>	<b>135.0</b>	<b>324.0</b>	<b>34.0</b>		<b>290.0</b>

**Example of Preparation of Detailed Base Cost Estimates**  
(CNY thousand)

Cpt No	Description	Unit	Qty	Unit Rate	Sub-Total					Fore-ign %	Foreign Exch	Local Currency	Totals (inc tax)	Taxes & Duties		Totals (excl tax)
					Civil Works	Equip-ment	Services	Land	Recurrent					Total	%	
<b>2.4 Improve Existing Ground Reservoir (100 m<sup>3</sup>)</b>																
2.4.1	Improve access track 3mx200m to reservoir	m	200	0.03	6.0	0.0	0.0	0.0	0.0	50	3.0	3.0	6.0	1.0	12	5.0
2.4.2	Install manhole cover, replace inlet and outlet pipes	LS	1	12.0	12.0	0.0	0.0	0.0	0.0	65	8.0	4.0	12.0	1.0	12	11.0
2.4.4	Miscellaneous items	LS	1	0.0	2.0	0.0	0.0	0.0	0.0	60	1.0	1.0	2.0	0.0	12	2.0
<b>Sub-Total Ground Reservoir</b>					<b>20.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>12.0</b>	<b>8.0</b>	<b>20.0</b>	<b>2.0</b>		<b>18.0</b>
<b>2.5 Raw Water Transmission Mains</b>																
2.5.1	Break pressure tank	No	2	30.0	60	0.0	0.0	0.0	0.0	50	30.0	30.0	60.0	6.0	12	54.0
2.5.2	Raw water transmission pipe DN 200	m	2,000	0.4	800	0.0	0.0	0.0	0.0	80	640.0	160.0	800.0	86.0	12	714.0
2.5.3	Raw water transmission pipe DN 150	m	10,000	0.3	2,500	0.0	0.0	0.0	0.0	80	2,000.0	500.0	2,500.0	268.0	12	2,232.0
2.5.4	Miscellaneous items				396	0.0	0.0	0.0	0.0	60	238.0	158.0	396.0	42.0	12	354.0
<b>Sub-Total Raw Water Transmission</b>					<b>3,756</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>2,908.0</b>	<b>848.0</b>	<b>3,756.0</b>	<b>402.0</b>		<b>3,354.0</b>
<b>2.6 Transmission, Distribution &amp; Connections</b>																
2.6.1	Treated water transmission to storage DN150	m	350	0.3	98	0.0	0.0	0.0	0.0	80	78.0	20.0	98.0	11.0	12	88.0
2.6.2	Treated water transmission to Nakhong V. DN100	m	4,500	0.2	765	0.0	0.0	0.0	0.0	80	612.0	153.0	765.0	82.0	12	683.0
2.6.3	Distribution pipe DN 150	m	3,500	0.3	980	0.0	0.0	0.0	0.0	80	784.0	196.0	980.0	105.0	12	875.0
2.6.4	Distribution pipe DN 125	m	1,000	0.3	260	0.0	0.0	0.0	0.0	80	208.0	52.0	260.0	28.0	12	232.0
2.6.5	Distribution pipe DN 100	m	600	0.2	102	0.0	0.0	0.0	0.0	80	82.0	20.0	102.0	11.0	12	91.0
2.6.6	Distribution pipe DN 75	m	3,900	0.1	468	0.0	0.0	0.0	0.0	80	374.0	94.0	468.0	50.0	12	418.0
2.6.7	Distribution pipe DN 50	m	8,900	0.1	445	0.0	0.0	0.0	0.0	80	356.0	89.0	445.0	48.0	12	397.0
2.6.8	Pipes, fittings and meters for connections	set	367	0.7	180	77.0	0.0	0.0	0.0	80	206.0	51.0	257.0	27.0	12	229.0
2.6.9	Miscellaneous items				396	12.0	0.0	0.0	0.0	60	245.0	163.0	408.0	44.0	12	364.0
<b>Sub-Total Distribution &amp; Connections</b>					<b>3,694</b>	<b>89.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>2,945.0</b>	<b>838.0</b>	<b>3,783.0</b>	<b>406.0</b>		<b>3,377.0</b>
<b>2.7 O &amp; M Equipment for PNP</b>																
2.7.1	Computers and software	set	2	15.0	0.0	30.0	0.0	0.0	0.0	85	26.0	4.0	30.0	4.0	15	26.0
2.7.2	Workshop tools	set	1	30.0	0.0	30.0	0.0	0.0	0.0	85	26.0	4.0	30.0	4.0	15	26.0
2.7.3	Furniture & minor equipment for office & WTP	set	2	20.0	40.0	0.0	0.0	0.0	0.0	86	34.0	6.0	40.0	4.0	12	36.0
2.7.4	Tools for O&M of water supply system	set	1	40.0	0.0	40.0	0.0	0.0	0.0	85	34.0	6.0	40.0	5.0	15	35.0
2.7.5	Miscellaneous items			0.0	5.0	12.0	0.0	0.0	0.0	60	10.0	7.0	17.0	2.0	12	15.0
<b>Sub-Total for O&amp;M Equipment</b>					<b>45.0</b>	<b>112.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>130.0</b>	<b>27.0</b>	<b>157.0</b>	<b>19.0</b>		<b>138.0</b>
<b>2.8 Land Acquisition and Compensation</b>																
2.8.1	Land, Crops, Trees, Structures, Rehabilitation	LS	1	230.0	0.0	0.0	0.0	230.0	0.0	0	0.0	230.0	230.0	0.00	0	230.0
<b>Sub-Total Land &amp; Compensation</b>					<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>230.0</b>	<b>0.0</b>		<b>0.0</b>	<b>230.0</b>	<b>230.0</b>	<b>0.0</b>		<b>230.0</b>
<b>TOTAL FOR COMPONENT 2</b>					<b>10,521.0</b>	<b>464.0</b>	<b>0.0</b>	<b>230.0</b>	<b>0.0</b>		<b>7,964</b>	<b>3,251</b>	<b>11,215</b>	<b>1,187</b>		<b>10,027</b>

### Example of Preparation of Detailed Base Cost Estimates

(CNY thousand)

Cpt No	Description	Unit	Qty	Unit Rate	Sub-Total				Fore-ign %	Foreign Exch	Local Currency	Totals (inc tax)	Taxes & Duties		Totals (excl tax)
					Civil Works	Equip-ment	Services	Land					Recurrent	Total	
<b>3 Roads, Drains &amp; Sanitation</b>															
<b>3.1 Priority Drainage Works in Phonsavanh &amp; Phonthong Villages &amp; Old Market Area</b>															
3.1.1	Roadside drain improvements	m		0.0	0.0	0.0	0.0	0.0	60	0.0	0.0	0.0	0.0	12	0.0
3.1.2	Restore access slabs to private houses	m		0.0	0.0	0.0	0.0	0.0	60	0.0	0.0	0.0	0.0	12	0.0
3.1.3	Pipe culverts incl wingwalls	m		0.0	0.0	0.0	0.0	0.0	61	0.0	0.0	0.0	0.0	13	0.0
<b>Subtotal for Priority Drainage Works</b>					<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>3.2 Upgrade Roads to Bitumen or Gravel Surface</b>															
3.2.1	Upgrade gravel road to bitumen with open drains in commercial area (Roads 9,11A)	m	450	1.2	553.5	0.0	0.0	0.0	50	277.0	276.5	553.5	59.0	12	494.0
3.2.2	Upgrade gravel road to bitumen with open drains for access to existing and new markets (Roads 8, 20A)	m	350	1.2	430.5	0.0	0.0	0.0	50	215.0	215.5	430.5	46.0	12	384.0
3.2.3	Upgrade earth/gravel village access roads to gravel with side open drains. Roads pass through medium density areas & lead to Donekeo, Phonsavath & Nakhong Villages (Roads 1, 11B, 1 & part only (103m) of Road 18.	m	803	0.6	497.9	0.0	0.0	0.0	50	249.0	248.9	497.9	53.0	12	445.0
<b>Subtotal for Roads</b>					<b>1,482.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>741.0</b>	<b>741.0</b>	<b>1,482.0</b>	<b>158.0</b>		<b>1,323.0</b>
<b>3.4 Sanitation for Public Areas</b>															
3.4.1	Public toilets, septic tanks and water supply in old market tuk-tuk parking area, new market and new bus station area	No	4	20.0	80.0	0.0	0.0	0.0	40	32.0	48.0	80.0	9.0	12	71.0
3.4.2	Clay-lined septage disposal pit	LS	1	30.0	30.0	0.0	0.0	0.0	50	15.0	15.0	30.0	3.0	12	27.0
<b>Subtotal for Sanitation in Public Areas</b>					<b>110.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>47.0</b>	<b>63.0</b>	<b>110.0</b>	<b>12.0</b>		<b>98.0</b>
<b>3.5 O &amp; M Equipment for OCTPC</b>															
3.5.1	Computers, printers, and software	set	1	15	0.0	15.0	0.0	0.0	85	13.0	2.0	15.0	2.0	15	13.0
3.5.2	Furniture and minor equipment for office	set	1	20	20.0	0.0	0.0	0.0	86	17.0	3.0	20.0	2.0	12	18.0
3.5.3	Tractor or tuk-tuk based utility for O&M	LS	1	25	0.0	25.0	0.0	0.0	86	22.0	3.0	25.0	3.0	12	22.0
3.5.4	Workshop tools	set	1	20	0.0	20.0	0.0	0.0	85	17.0	3.0	20.0	3.0	15	17.0
3.5.5	Tools for O&M of roads and drains	set	1	15	0.0	15.0	0.0	0.0	86	13.0	2.0	15.0	2.0	15	13.0
<b>Sub-Total for O&amp;M Equipment</b>					<b>20.0</b>	<b>75.0</b>	<b>0.0</b>	<b>0.0</b>		<b>82.0</b>	<b>13.0</b>	<b>95.0</b>	<b>12.0</b>		<b>83.0</b>
<b>3.6 Land Acquisition and Compensation</b>															
3.6.1	Land, Crops, Trees, Structures, Rehabilitation	LS	1	250	0.0	0.0	0.0	250.0	0	0.0	250.0	250.0	0.0	0	250.0
<b>Sub-Total Land &amp; Compensation</b>					<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>250.0</b>	<b>0.0</b>	<b>0.0</b>	<b>250.0</b>	<b>250.0</b>	<b>0.0</b>		<b>250.0</b>
<b>TOTAL FOR COMPONENT 3</b>					<b>1,612.0</b>	<b>75.0</b>	<b>0.0</b>	<b>250.0</b>	<b>0.0</b>	<b>870.0</b>	<b>1,067.0</b>	<b>1,937.0</b>	<b>182.0</b>		<b>1,754.0</b>

**Example of Preparation of Detailed Base Cost Estimates**  
(CNY thousand)

Cpt No	Description	Unit	Qty	Unit Rate	Sub-Total				Fore-ign %	Foreign Exch	Local Currency	Totals (inc tax)	Taxes & Duties		Totals (excl tax)	
					Civil Works	Equip-ment	Services	Land					Recurrent	Total		%
<b>4 Participation, Awareness &amp; Community Actions (PACA)</b>																
<b>4.1 Community Health &amp; Awareness Program</b>																
4.1.1	Public Events, Campaigns, Awareness materials	Year	6930.0	0.03	0.0	0.0	173.3	0.0	0.0	20	35.0	138.3	173.3	19.0	12	155.0
4.1.2	Communications and Education Equipment	LS	1		0.0	30.0	0.0	0.0	0.0	70	21.0	9.0	30.0	4.0	15	26.0
<b>Subtotal for CHAP</b>					<b>0.0</b>	<b>30.0</b>	<b>173.0</b>	<b>0.0</b>	<b>0.0</b>		<b>56.0</b>	<b>147.0</b>	<b>203.0</b>	<b>23.0</b>		<b>181.0</b>
<b>4.2 Village Environmental Improvements</b>																
4.2.1	Community improvements	bp	6930	0.09	589.1	0.0	1.0	2.0	3.0	40	238.0	357.1	595.1	64.0	12	531.0
4.2.2	Beneficiary and government contributions	LS	1		147.3	0.0	0.3	0.5	0.8	10	15.0	133.8	148.8	16.0	12	133.0
4.2.3	Sanitation for Poor Households	hh	284	0.8	213.0	0.0	1.0	2.0	3.0	40	100	113	213	23.0	12	190.0
<b>Subtotal for Village Improvements</b>					<b>949.0</b>	<b>0.0</b>	<b>2.0</b>	<b>5.0</b>	<b>7.0</b>		<b>353.0</b>	<b>604.0</b>	<b>957.0</b>	<b>103.0</b>		<b>854.0</b>
<b>TOTAL FOR COMPONENT 4</b>					<b>949.0</b>	<b>30.0</b>	<b>175.0</b>	<b>5.0</b>	<b>7.0</b>		<b>409.0</b>	<b>751.0</b>	<b>1,160.0</b>	<b>126.0</b>		<b>1,035.0</b>
<b>5 Project Implementation Assistance &amp; Capacity Building Programs</b>																
5.1	Project Implementation Assistance	LS	1		0.0	54.0	2,890.0	0.0	0.0		1,603.0	1,341.0	2,944.0	193.0		2,798.0
5.2	Capacity Building Programs	LS	1		0.0	3.0	659.0	0.0	0.0		276.0	386.0	662.0	41.0		621.0
5.3	Surveys & investigations Contracts	LS	1		0.0	0.0	496.0	0.0	0.0		250.0	246.0	496.0	32.0		464.0
5.4	Incremental Administration-PMU	LS	1		0.0	32.0	216.0	0.0	0.0		79.0	170.0	249.0	21.0		228.0
5.5	Incremental Administration-PIU	LS	1		0.0	339.0	343.0	0.0	0.0		461.0	221.0	683.0	76.0		643.0
<b>TOTAL FOR COMPONENT 5</b>					<b>0.0</b>	<b>428.0</b>	<b>4,604.0</b>	<b>0.0</b>	<b>0.0</b>		<b>2,669.0</b>	<b>2,364.0</b>	<b>5,034.0</b>	<b>363.0</b>		<b>4,754.0</b>
<b>TOTAL ESTIMATED BASE COST</b>					<b>13,082.0</b>	<b>997.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>		<b>11,912.0</b>	<b>7,433.0</b>	<b>19,346.0</b>	<b>1,858.0</b>		<b>17,570.0</b>

**Note:**

- LS - Lump Sum
- m - Meter
- bp - Beneficiary Population
- hh - Households

## CALCULATION OF PRICE CONTINGENCIES

### I. Assumptions

1. The project base cost is P500 million, of which 55% are foreign exchange costs and 45% local currency costs. The base cost estimates are prepared as of 1 July 2006. The foreign and local inflation rates used as the basis for the foreign and local price contingencies are given in Table A1.1.

**Table A1.1: Foreign and Local Inflation Rates**

	2006	2007	2008	2009	2010
Foreign	3.5%	3.0%	2.8%	2.5%	2.5%
Local	6.0%	6.5%	7.0%	7.0%	7.0%

### II. Calculation

2. The base cost in each year over the five year project implementation period is multiplied by the compounded price contingency in each year to derive the price contingency amount in each year. Given that the price basis for the base costs is 1 July 2006, the contingencies for 2007 are calculated by taking one-half the 2006 inflation rate and one-half the 2007 rate. This brings the price basis to 1 July 2007<sup>1</sup>. This calculation of the foreign price contingency is as follows:

$$FPC_{2007} = \left[ \frac{F_{2006}}{2} \right] + \left[ \frac{F_{2007}}{2} \right]$$

$$FPC_{2007} = \left[ \frac{0.035}{2} \right] + \left[ \frac{0.03}{2} \right] = 0.0325 = 3.25\%$$

Where:

$FPC_{2007}$  = Foreign Price Contingency for 2007

$F_{2006}$  = Foreign Inflation Rate in 2006

$F_{2007}$  = Foreign Inflation Rate in 2007

<sup>1</sup> Alternatively, if the price basis was 1 October 2006, the contingency for 2007 would be calculated by taking one-quarter the 2006 rate and three-quarters of the 2007 rate.

3. The calculation of the price contingency for 2008 is then as follows:

$$FPC_{2008} = [1 + FPC_{2007}] \times \left[ 1 + \frac{F_{2007}}{2} + \frac{F_{2008}}{2} \right] - 1$$

$$FPC_{2008} = 1.0325 \times 1.029 - 1$$

$$FPC_{2008} = 0.0624 = 6.24\%$$

Where:

$FPC_{2008}$  = Foreign Price Contingency for 2008

$F_{2008}$  = Foreign Inflation Rate in 2008

4. Using this methodology, the price contingences to be applied in each year are given in Table A1.2.

**Table A1.2: Foreign and Local Price Contingencies**

	2006	2007	2008	2009	2010
Foreign	0.00%	3.25%	6.24%	9.06%	11.79%
Local	0.00%	6.25%	13.42%	21.36%	29.86%

**SAMPLE OF PROJECT INVESTMENT PLAN FOR PRESENTATION IN MAIN BODY OF RRP**

**Table 1: Project Investment Plan**  
(\$ Million)

	<b>Total</b>
<b>A. Base Cost<sup>a</sup></b>	
1. Component A	8.7
2. Component B	31.5
3. Component C	4.8
... [include all project components]	
<b>Subtotal (A)</b>	<b>45.0</b>
<b>B. Contingencies</b>	
1. Physical <sup>b</sup>	3.4
2. Price <sup>c</sup>	4.0
<b>Subtotal (B)</b>	<b>7.4</b>
<b>C. Financial Charges During Implementation<sup>d</sup></b>	<b>0.8</b>
<b>Total (A+B+C)<sup>e</sup></b>	<b>53.2</b>

<sup>a</sup> in (month) 200x prices.

<sup>b</sup> Computed at x% for civil works; and x% for field research and development, training, surveys and studies.

<sup>c</sup> Computed at x% on foreign exchange costs and x% on local currency costs and includes provision for potential exchange rate fluctuation.

<sup>d</sup> Includes interest during construction, commitment charges and front-end fees. Interest during construction has been computed at the five year forward Libor rate plus a spread of x.x%.

<sup>e</sup> Includes taxes and duties of \$x.x.

**SAMPLE OF FINANCING PLAN FOR PRESENTATION IN MAIN BODY OF RRP****Table 2: Financing Plan**  
(\$ Million)

<b>Source</b>	<b>Total</b>	<b>%</b>
ADB Loans	34.5	65.0
Cofinancier	10.6	20.0
... [include all cofinanciers]	0.0	0.0
Government	2.7	5.0
Project Entity Internally Generated Funds	2.7	5.0
Beneficiaries	2.7	5.0
<b>Total</b>	<b>53.2</b>	<b>100.0</b>

## SAMPLE OF COST ESTIMATES FOR PRESENTATION IN CORE APPENDIX OF RRP

Table A#.1: Detailed Cost Estimate by Expenditure Category

	Local Currency Units thousand			\$ thousand			% Foreign Exchange	% Base Costs
	Foreign	Local	Total	Foreign	Local	Total		
<b>A. Investment Costs</b>								
1. Expenditure Category	144,444.8	41,601.6	186,046.4	3,282.8	945.5	4,228.3	77.6	51.2
2. Expenditure Category	23,250.4	3,787.8	27,038.2	528.4	86.1	614.5	86.0	7.4
3. Expenditure Category	48,576.0	6,600.0	55,176.0	1,104.0	150.0	1,254.0	88.0	15.2
4. Expenditure Category	24,639.8	3,059.0	27,698.8	560.0	69.5	629.5	89.0	7.6
Expenditure Subcategory	12,000.0	1,500.0	13,500.0	275.0	35.0	310.0	88.7	3.8
Expenditure Subcategory	12,639.8	1,559.0	14,198.8	285.0	34.5	319.5	89.2	3.9
5. Taxes and Duties	0.0	1,200.0	1,200.0	130.9	27.3	158.2	82.7	1.9
<b>Subtotal (A)</b>	<b>240,911.0</b>	<b>56,248.4</b>	<b>297,159.4</b>	<b>5,606.1</b>	<b>1,278.4</b>	<b>6,884.5</b>	<b>81.4</b>	<b>83.4</b>
<b>B. Recurrent Costs</b>								
1. Recurrent Cost Category	0.0	24,125.0	24,125.0	0.0	548.3	548.3	0.0	6.6
2. Recurrent Cost Category	0.0	26,624.0	26,624.0	0.0	605.1	605.1	0.0	7.3
3. Recurrent Cost Category	1,029.0	7,368.8	8,397.8	23.4	167.5	190.9	12.3	2.3
4. Taxes and Duties	0.0	300.0	300.0	0.0	30.0	30.0	0.0	0.4
<b>Subtotal (B)</b>	<b>1,029.0</b>	<b>58,417.8</b>	<b>59,446.8</b>	<b>23.4</b>	<b>1,350.9</b>	<b>1,374.3</b>	<b>1.7</b>	<b>16.6</b>
<b>Total Base Costs</b>	<b>241,940.0</b>	<b>114,666.2</b>	<b>356,606.2</b>	<b>5,629.5</b>	<b>2,629.3</b>	<b>8,258.8</b>	<b>68.2</b>	<b>100.0</b>
<b>C. Contingencies</b>								
1. Physical	16,505.7	11,376.6	27,882.3	375.1	258.6	633.7	59.2	7.7
2. Price	22,119.3	65,861.4	87,980.7	502.7	1,496.8	1,999.5	25.1	24.2
<b>Subtotal (C)</b>	<b>38,625.0</b>	<b>77,238.0</b>	<b>115,863.0</b>	<b>877.8</b>	<b>1,755.4</b>	<b>2,633.2</b>	<b>33.3</b>	<b>31.9</b>
<b>D. Financial Charges During Implementation</b>								
1. Interest During Construction	28,425.1	0.0	28,425.1	646.0	0.0	646.0	100.0	7.8
2. Commitment Charges	1,991.6	0.0	1,991.6	45.3	0.0	45.3	100.0	0.5
3. Front-End Fees	1,779.4	0.0	1,779.4	40.4	0.0	40.4	100.0	0.5
<b>Subtotal (D)</b>	<b>32,196.1</b>	<b>0.0</b>	<b>32,196.1</b>	<b>731.7</b>	<b>0.0</b>	<b>731.7</b>	<b>100.0</b>	<b>8.9</b>
<b>Total (A+B+C+D)</b>	<b>312,761.1</b>	<b>191,904.2</b>	<b>504,665.3</b>	<b>7,239.0</b>	<b>4,384.7</b>	<b>11,623.7</b>	<b>62.3</b>	<b>140.7</b>

**SAMPLE OF FINANCING PLAN FOR PRESENTATION IN CORE APPENDIX OF RRP**

**Table A#.2: Financing Plan**  
(\$ Million)

	<b>ADB Loans</b>		<b>Cofinancier</b>		<b>Government</b>		<b>Internally Funds</b>		<b>Beneficiaries</b>		<b>Total</b>
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount
<b>A. Investment Cost</b>											
1. Expenditure Category	3.80	65.0	1.17	20.0	0.29	5.0	0.29	5.0	0.29	5.0	5.85
2. Expenditure Category	0.55	65.0	0.17	20.0	0.04	5.0	0.04	5.0	0.04	5.0	0.85
3. Expenditure Category	1.13	65.0	0.35	20.0	0.09	5.0	0.09	5.0	0.09	5.0	1.73
4. Expenditure Category	0.57	65.0	0.17	20.0	0.04	5.0	0.04	5.0	0.04	5.0	0.87
Expenditure Subcategory	0.28	65.0	0.09	20.0	0.02	5.0	0.02	5.0	0.02	5.0	0.43
Expenditure Subcategory	0.29	65.0	0.09	20.0	0.02	5.0	0.02	5.0	0.02	5.0	0.44
5. Taxes and Duties	0.14	65.0	0.04	20.0	0.01	5.0	0.01	5.0	0.01	5.0	0.22
<b>Subtotal (A)</b>	<b>6.19</b>		<b>1.90</b>		<b>0.48</b>		<b>0.48</b>		<b>0.48</b>		<b>9.52</b>
<b>B. Recurrent Costs</b>											
1. Recurrent Cost Category	0.36	65.0	0.11	20.0	0.03	5.0	0.03	5.0	0.03	5.0	0.55
2. Recurrent Cost Category	0.39	65.0	0.12	20.0	0.03	5.0	0.03	5.0	0.03	5.0	0.61
3. Recurrent Cost Category	0.12	65.0	0.04	20.0	0.01	5.0	0.01	5.0	0.01	5.0	0.19
4. Taxes and Duties	0.02	65.0	0.01	20.0	0.00	5.0	0.00	5.0	0.00	5.0	0.03
<b>Subtotal (B)</b>	<b>0.89</b>		<b>0.27</b>		<b>0.07</b>		<b>0.07</b>		<b>0.07</b>		<b>1.37</b>
<b>C. Interest &amp; Other Charges During Construction</b>											
1. Interest During Construction	0.42	65.0	0.13	20.0	0.03	5.0	0.03	5.0	0.03	5.0	0.65
2. Commitment Charges	0.03	65.0	0.01	20.0	0.00	5.0	0.00	5.0	0.00	5.0	0.05
3. Front-End Fees	0.03	65.0	0.01	20.0	0.00	5.0	0.00	5.0	0.00	5.0	0.04
<b>Subtotal (D)</b>	<b>0.48</b>		<b>0.15</b>		<b>0.04</b>		<b>0.04</b>		<b>0.04</b>		<b>0.73</b>
<b>Total Disbursement (A+B+C)</b>	<b>7.56</b>		<b>2.32</b>		<b>0.58</b>		<b>0.58</b>		<b>0.58</b>		<b>11.62</b>