

## PROJECT PREPARATORY TECHNICAL ASSISTANCE

### A. Justification

1. The project preparatory technical assistance (PPTA) is required to prepare an investment project for possible funding by the Asian Development Bank (ADB) to support the development of technical and vocational education and training (TVET) in Baise, the People's Republic of China (PRC). Project components are likely to include capacity building and piloting innovative approaches, upgrading TVET facilities, and procurement of training and teaching equipment. The government was advised that approval of the PPTA does not commit ADB to financing any ensuing project.

### B. Major Outputs and Activities

2. PPTA outputs will include:

- (i) **Design and monitoring framework.** The consultants will conduct a design and monitoring framework (DMF) workshop—including problem tree and objective tree analyses—involving stakeholders from Baise Municipal Government (BMG), representatives of public services sectors, and involved TVET schools. The consultants will discuss and reach preliminary agreement with senior BMG officials and project executing agency on the (a) project impact, outcome, outputs, components, and activities; (b) preliminary project costs, implementation activities, and timeframes; and (c) problem tree and objective tree analyses, and DMFs for each project component and for the project as a whole. The project is intended to be classified as effective gender mainstreaming (EGM); hence, the consultants will identify suitable actions and indicators from the gender action plan for incorporation into the DMF.
- (ii) **Sector and subsector analysis.** The consultants will conduct a comprehensive review of TVET in support of social and economic development in Guangxi and Baise in the context of the Twelfth Five-Year Plan. A comprehensive review of TVET provision at multilevel in the municipality of Baise, Baise University, and Baise Vocational School (BVS) will be conducted. This will include an examination of (a) supply of and access to TVET; (b) the existing skills standards, curriculum, training materials, and assessment methods; (c) TVET teacher qualifications, training, and management systems; (d) the existing and potential forms of industry partnerships in TVET; (e) regional cooperation policies and practices in TVET at different levels; and (f) the existing systems and methods for labor market analyses for multilevel TVET provision. The sector analysis will include a review of reports, studies, and policy papers prepared by the PRC provincial and municipal governments and international development agencies, such as the International Labour Organization, World Bank, etc. Considering the review and international best practices, the consultants will assess the project rationale and justification and give recommendations for further strengthening the project design. Based on this review and analysis, and in accordance with ADB guidelines and templates, the consultants will prepare the necessary appendix for the report and recommendation of the President (RRP).
- (iii) **Technical review.** The consultants will review the technical design of all project components to make sure they are technically sound, meet all relevant technical standards and safeguard requirements (including addressing universal design), and are suitable for ADB financing support. Based on that review, the consultants

- will recommend improvements to the technical design of each project component based on the best national or international practices.
- (iv) **Project administration manual.** The consultants will prepare the draft project administration manual (PAM), which will (a) include information and schedules describing project implementation, including project readiness filters; (b) specify the executing agency, implementing agency, and ADB project implementation roles and responsibilities; (c) identify implementation arrangements, including costs and financing, financial management, consulting services and procurement, safeguards, performance monitoring, evaluation, and reporting and communications. The consultant will prepare the PAM in consultation with the government and ADB, which will be agreed initially at loan fact-finding. Monitoring and evaluation should include such tools as tracer studies, employer surveys, and impact evaluation to ensure that lessons from the project can be captured and shared.
  - (v) **Financial analysis and financial management assessment.** The consultants will review the draft feasibility studies prepared by BMG and undertake financial analyses to ensure that the project cost estimates, financing plan, procurement plan, and financial analyses meet ADB requirements. The consultants will prepare a financial management assessment (FMA). The FMA should be summarized in the RRP and PAM, and the full FMA provided as a supplementary document to the RRP. The consultants will then prepare the required RRP appendixes.
  - (vi) **Economic analysis.** The consultants will review the draft feasibility study prepared by BMG and conduct economic analyses of the project, including least-cost analyses and affordability analyses, where applicable, to ensure the economic analysis meets ADB requirements. The consultants will then prepare the required RRP appendix.
  - (vii) **Poverty and social assessment and summary poverty reduction and social strategy.** The consultants will help BMG engage a qualified institute to conduct the poverty and social analysis in accordance with ADB requirements. The consultants will conduct key informant and focus group discussions, conduct and analyze survey data, and prepare a poverty and social analysis (including ethnic minority and gender), which will make recommendations for design, implementation, and monitoring to strengthen the project's development impact. Based on this analysis, in consultation with stakeholders and government and in accordance with ADB guidelines, the consultants will prepare a poverty and social assessment, which will include the social action plan (similar to an ethnic minority development plan), gender action plan, and summary poverty reduction and social strategy.
  - (viii) **Gender action plan.** The project is intended to be classified as EGM. As such, the consultants will work with BMG to prepare a gender action plan with the objective of ensuring the project maximizes benefits for women and meets ADB's EGM categorization requirements, and includes consultation with stakeholders and government.
  - (ix) **Environmental assessment and measures.** The consultants will provide guidance to the domestic environmental impact assessment institute, review the domestic environment impact statement (EISs) prepared for the project components, and assist BMG to obtain approval for all project domestic EISs from relevant environment protection authorities. Based on the review of the EIS, the consultants will help prepare a consolidated project initial environmental examination (IEE) report, including environment management plan (EMP) in ADB's required format and complying with ADB's Safeguard Policy Statement (SPS, 2009). The consultants will assess the capacity of the executing agency and

implementing agencies for environmental management, monitoring and supervision, and recommend required measures for capacity building and institutional strengthening. The consultants will assist the executing agency with meaningful consultation and participation during development of the IEE report, and establishment of a project level grievance redress mechanism. The consultants will prepare a contractor specifications for environmental management and monitoring. The consultants will also establish environmental baseline indicators and performance targets for the design and monitoring framework, and prepare the required RRP appendixes.

- (x) **Involuntary resettlement assessment and measures.** The consultants will conduct due diligence on land acquisition, resettlement, and proposed construction plans and submit due diligence reports in accordance with ADB requirements. This due diligence will confirm the categorization, which is C. If impacts are identified, a resettlement plan will be prepared in accordance with the SPS.
- (xi) **Ethnic minority (indigenous peoples) assessment and measures.** The consultants will conduct a thorough scoping of ethnic minority issues integrating it with the social, poverty, and gender analysis in the project and will propose measures to enhance the inclusiveness of TVET for ethnic minorities, especially the rural poor. Such measures will either be integrated into the project design or included in an ethnic minority development plan, in accordance with ADB requirements. The consultants will assist the executing agency to prepare the relevant documents.
- (xii) **Risk assessment and management plan.** The consultants will work with stakeholders to identify potential project-related risks and prepare a draft governance risk assessment and management plan. The consultants will also prepare the required RRP appendix.
- (xiii) **Institutional review.** The consultants will review the institutional arrangements proposed for the project and conduct a financial management assessment and a procurement assessment of the executing agency project management office and implementing agencies to assess their capability to implement the project and operate and maintain the project facilities. The consultants will make recommendations for training and other measures to strengthen the capacity to meet the operational needs of project implementation.

3. The major outputs and activities are summarized in Table A4.1.

**Table A4.1: Summary of Major Outputs and Activities**

<b>Major Activities</b>	<b>Expected Completion Date</b>	<b>Major Outputs</b>	<b>Expected Completion Date</b>
Analyze TVET policies, studies, and plans of Baise and GZAR	Month 1	Sector analysis	Month 2
Identify stakeholder groups and conduct consultations, including public and/or private services industry representatives, TVET school representatives, student surveys, and DMF workshops	Month 2	DMF	Month 2

<b>Major Activities</b>	<b>Expected Completion Date</b>	<b>Major Outputs</b>	<b>Expected Completion Date</b>
Undertake technical, economic, financial, environmental, and social analysis of project components, and review and strengthen project design based on international best practices	Months 1–4		Month 5
Estimate detailed costs, and prepare financing plan and institutional arrangements for the project components	Months 3–5	Risk assessment and management plan, FMA, financial and economic analysis, procurement capacity assessment of the executing agency and implementing agencies, draft bidding documents, and draft procurement plan	Month 5
Analyze project component and/or policy options for resettlement, environment, and social issues ( poverty reduction, gender, involuntary resettlement, and indigenous peoples)	Months 2–4	Environmental assessment and measures, SPRSS, GAP, EMDP, resettlement due diligence	Month 5
Establish a monitoring and evaluation system for the project	Months 3–6	Monitoring and evaluation system	Month 6
Conduct training workshops for executing agency, implementing agency, and design institutes on procurement and resettlement due diligence	Months 2–4	Training workshops on safeguards and training in ADB procurement and consulting services procedures	Month 5
Hold public consultation workshops	Month 4	Workshops	Month 5
Review proposed institutional arrangement for the project and identify needs for capacity strengthening and corporate governance improvement to ensure effective project implementation	Months 1–4	Project administration manual, including financial management and procurement assessments	Month 5
Hold final stakeholder workshop	Month 6	Workshop	Month 6

<b>Major Activities</b>	<b>Expected Completion Date</b>	<b>Major Outputs</b>	<b>Expected Completion Date</b>
Summarize the technical, financial, economic, and policy aspects of the TA	Month 6	Summaries	Month 6
Submit final report and hold final tripartite meeting	Month 6	Final report	Month 6

ADB = Asian Development Bank, DMF = design and monitoring framework, EMDP = ethnic minority development plan, FMA = financial management assessment, GAP = gender action plan, GZAR = Guangxi Zhuang Autonomous Region, SPRSS = summary poverty reduction and social strategy, TVET = technical and vocational education and training.

Source: Asian Development Bank estimates.

### C. Cost Estimate and Proposed Financing Arrangement

4. The technical assistance is estimated to cost \$500,000 equivalent, of which \$500,000 equivalent will be financed on a grant basis by ADB's technical assistance special fund (TASF-other sources). The government will provide counterpart support in the form of counterpart staff, office accommodation, office supplies, secretarial and translation assistance, domestic transportation, communication facilities for consultants, and other in-kind contributions.

**Table A4.2: Cost Estimates and Financing Plan**  
(\$'000)

<b>Item</b>	<b>Total Cost</b>
<b>Asian Development Bank<sup>a</sup></b>	
1. Consultants	
a. Remuneration and per diem	
i. International consultants (15 person-months)	233.0
ii. National consultants (26 person-months)	168.0
b. International and local travel	45.0
c. Reports and communications <sup>b</sup>	5.0
2. Equipment (computer, printer, etc.) <sup>c</sup>	9.0
3. Miscellaneous administration and support costs	5.0
4. Representative for contract negotiations <sup>d</sup>	5.0
5. Contingencies	30.0
<b>Total</b>	<b>500.0</b>

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

<sup>b</sup> Includes office communications, printing and binding of reports, and translation of inception, interim, draft final, and final TA reports and documents into Chinese.

<sup>c</sup> Equipment

Type	Quantity	Cost
Computer (laptop, desktop)	3 laptops	\$4,000
Printer, photocopier	1 each	\$2,000
Others (projector, digital camera, etc.)	1 each	\$3,000

The equipment will be turned over to the executing agency upon completion of the technical assistance. Procurement will be done following ADB's Procurement Guidelines (2013, as amended from time to time).

<sup>d</sup> Includes the cost of travel and per diem for government observers invited for contract negotiations.

Note: Items A2–A6 will be included in consultants' contracts as fixed sums, but will not be subject to competitive bidding.

Source: Asian Development Bank estimates.

### D. Implementation Arrangements

5. The proposed TA processing and implementation schedule is listed in Table A4.3.

**Table A4.3: Technical Assistance Processing and Implementation Schedule**

<b>Major Milestones</b>	<b>Expected Completion Date</b>
PPTA approval/concept clearance	August 2013
Contract negotiations	November 2013
Mobilization	December 2013
Submit inception report	After 1 month
Submit interim report	After 3 months
Submit draft final report	May 2014
Submit final report	Within 2 weeks of receiving comments on the draft final report from the authorities and ADB
Physical completion	June 2013
Financial closure	August 2014

ADB = Asian Development Bank, PPTA = project preparatory technical assistance.  
 Source: Asian Development Bank.

## OUTLINE TERMS OF REFERENCE FOR CONSULTANTS

1. The consulting services will be engaged by the Asian Development Bank (ADB), in accordance with ADB's Guidelines on the Use of Consultants (2013, as amended from time to time) to ensure immediate mobilization and facilitate project scoping. ADB will select and engage an international firm based on the quality of the proposal (80%) and the cost (20%) of the services to be provided (the quality- and cost-based selection method) using the simplified technical proposal procedure. A total of 41 person-months of consulting services (15 international and 26 national) are required. A technical and vocational education and training (TVET) firm will provide expertise in TVET labor market analysis, competency-based curriculum (CBC), services-school collaboration, training of instructors, management of TVET, finance and economics, engineering, poverty and social assessment and development, resettlement, environment, institutional development, and project management.

**Table A4.4: Summary of Consulting Services Requirement**

Name of positions	International Person- months	National Person- months
TVET management and institutional specialist	4	4
TVET teacher training and curriculum development specialist	2	4
Regional cooperation and industry partnership specialist	2	4
Civil works engineers	2	5
Financial and economic specialist	2	3
Involuntary resettlement specialist		1
Poverty, social and gender specialist	1	2
Environment specialist	2	3
<b>Total</b>	<b>15</b>	<b>26</b>

TVET = technical and vocational education and training.

Source: Asian Development Bank.

2. The outline terms of reference for the project preparatory technical assistance (PPTA) consultants are described as follows.

1. **TVET Management and Institutional Specialist** (international consultant, 4 person-months/team leader; national consultant, 4 person-months)

3. Both experts should have at least a Master's graduate degree in education, training management, and relevant disciplines. The international expert should have at least 15 years experience in TVET management and institutions. Knowledge and experience of international best practices are required. Experience in the People's Republic of China (PRC) is an asset. The national expert should have at least 10 years experience in the development and implementation of skills standards, curriculum, training materials, and assessment methods. Proficiency in English is required. The consultant is expected to conduct a sector assessment and review of Baise University and Baise Vocational School (BVS); their programs and courses in collaboration with the TVET teacher training specialist, regional cooperation specialist and industry partnership specialist. Outputs from the PPTA exercise would include a report with:

- (i) description of the current provision of TVET at different levels (secondary, advanced, undergraduate, and short-term courses for migrant workers) in Baise Municipality, Baise University, and BVS (i.e., number of TVET schools at different levels, enrollment, completion, and teachers by course);

- (ii) review of the current skills standards, curriculum (including theoretical part and practical training), training materials, and assessment methods used for TVET courses at different levels offered by Baise University and BVS;
- (iii) analysis of the current processes, methodologies, and regulations for developing skills standards, curriculum, training materials, and assessment methods used for TVET courses at different levels offered by Baise University and BVS;
- (iv) review of the existing systems for sharing resources, building modular curriculum and certification programs;
- (v) recommendations on development of multilevel TVET with reference to facilities, curriculum, and staffing. Competency standards, training materials, and assessment methods;
- (vi) recommendations on the development of web-based curriculum, material, and test database for TVET courses to be offered by Baise University and BVS;
- (vii) design, cost estimates (consulting services, materials, etc.) and monitoring indicators for developing multilevel TVET including skills standards, curriculum, training materials, assessment methods, and web-based database for TVET offered by Baise University and BVS; and
- (viii) as team leader: (a) guide, coordinate, and supervise the consulting team's inputs, and be responsible for preparing and finalizing PPTA outputs, including the inception report, interim report, draft final report, and final report; (b) undertake a technical review of the design and feasibility analyses prepared for the infrastructure and capacity building components to make sure that TVET facilities are properly designed and fully meet technical standards including national safety and environmental requirements and that capacity building activities address the needs of the executing agency and project schools; (c) provide innovative ideas and technical advice to improve overall project design and avoid oversized facilities construction; (d) work closely with the individual consultants to ensure their advice and outputs are incorporated into the project design; (e) work closely with the TVET consultants to prepare a project design, incorporating lessons and experiences from other relevant ADB-financed projects and TVET projects financed by the World Bank and Australian Government Overseas Aid Program in the PRC; (f) assess adequacy of detailed cost estimate; (g) identify appropriate procurement packaging and procurement plans for the project components; (h) assess operation and maintenance requirement of investment components; (i) identify and enhance potential innovative features of the project; (j) analyze capacity development needs and design capacity building activities for the executing agency and implementing agencies; (k) taking into account international and national best practices, and give recommendations for further strengthening of the design and implementation arrangements for capacity building and infrastructure components; (l) conduct appropriate workshops and training for project design and project performance management system, ADB's safeguards policy, and ADB's procurement and disbursement; (m) review contract packaging arrangements for the capacity building and infrastructure components, coordinate preparation of the consolidated procurement plan, provide guidance and support in preparing procurement documents for the project, (n) be responsible for preparing the draft report and recommendations and required linked documents based on the inputs of the team; and (o) and perform other tasks as may be reasonably assigned by ADB.



**2. TVET Teacher Training and Curriculum Development Specialist** (international consultant, 2 person-months; national consultant, 4 person-months)

4. Both experts should have at least a Master's graduate degree in education, training management, public administration, and/or other relevant disciplines. The international expert should have at least 10 years have experience in the development and implementation of TVET teacher qualifications, training, and management systems. Knowledge and experience of international best practices are required. Experience in the PRC is an asset. The national expert should have at least 7 years experience in the development and implementation of TVET teacher qualifications, training, and management. Proficiency in English is required. The expert is expected to conduct a review of TVET teacher qualifications, training, and management systems at Baise University and BVS, and assist in conducting a sector assessment. Outputs from the PPTA exercise would include a report with:

- (i) overview of teachers and their qualifications by each TVET course offered by Baise University and BVS;
- (ii) overview of teacher sharing across different levels of TVET and double-qualifications across TVET courses;
- (iii) assessment of current approaches to curriculum development;
- (iv) assessment of the role of industry in curriculum development and recommendations for improving their role in the design of the project;
- (v) design and recommendations for creating CBC development system with attention to modular curriculum design and multilevel progression;
- (vi) review of the current systems for TVET teacher training (i.e., mentoring, peer-review, institution-based training, distance-learning, practical training, in-company training, etc.);
- (vii) review of the current teacher and student assessment systems and methods (performance, knowledge, skills, etc.);
- (viii) review of the current career paths for TVET teachers;
- (ix) analysis of linkages between TVET teacher qualifications, TVET teacher training, teacher assessment systems, and career paths;
- (x) recommendations on the development and/or improvement of systems and methods for TVET teacher training and assessment;
- (xi) recommendations on the development of training and professional development plans for individual teachers;
- (xii) recommendations on the development of a teacher recruitment and training plan taking into account the current and potential teacher sharing and double qualifications; and
- (xiii) design, cost estimates (consulting services, materials, etc.), and monitoring indicators for teacher training and curriculum development component.

**3. Regional Cooperation and Industry Partnership Specialist** (international consultant, 2 person-months; national consultant, 4 person-months)

5. Both experts should have at least a Master's graduate degree in economics, business administration, public administration, and/or other relevant disciplines. The international expert should have at least 15 years experience in TVET industry partnerships and previous experience in regional cooperation and labor market analysis, preferably, in the Association of Southeast Asian Nations (ASEAN) and Greater Mekong Subregion (GMS) countries. The national expert should have at least 10 years industry partnership development in TVET or human resource development in the industry and service sectors. Proficiency in English is required. The consultant is expected to conduct a review of regional cooperation policies and

practices at different levels and assist in conducting a review of TVET courses offered by Baise University and BVS from the regional cooperation perspective. The consultant is expected to conduct a review of the existing and potential forms of industry partnerships at Baise University and BVS and beyond. Outputs from PPTA exercise would include report with:

- (i) review of regional cooperation policies and practices at different levels (i.e. Baise University and BVS, Baise Municipality, Guangxi Province, GMS, ASEAN);
- (ii) overview of recent trends in rural-urban migration within and outside the municipality of Baise and across borders;
- (iii) analysis of profiles of migrant workers (i.e., poverty, level of education attainment, etc.);
- (iv) analysis of demand and supply of education and cultural services across borders;
- (i) analysis of growth sectors and occupations from the regional cooperation perspective; review of the existing systems, methods, and institutional arrangements for labor market analyses in the municipality of Baise;
- (ii) analysis of labor demand and supply in the municipality of Baise based on available statistics and data; recommendations, costing and outline of activities based on international best practices on systems, methods, and institutional arrangements for labor market analyses activities to be implemented under the project
- (v) recommendations on creating regional cooperation partnerships with industries and educational institutions;
- (vi) recommendations on the development of regional cooperation in TVET courses for students from other GMS countries, in collaboration with the multilevel TVET competency standard, curriculum, and assessment specialist;
- (vii) recommendations on the development of regional cooperation in TVET courses in growth sectors and occupations from the regional cooperation perspective in collaboration with the multilevel TVET competency standard, curriculum, and assessment specialist; and
- (viii) recommendations on regional cooperation policies and practices in the education and TVET sector at different levels
- (ix) design, costing and monitoring indicators for the regional cooperation and activities.
- (x) review of the existing forms of partnerships and contractual arrangements between industries and/or services and Baise University and BVS;
- (xi) review of the financial and other incentive schemes for industries and services engaging in TVET provision;
- (xii) overview of the existing industry, services, business associations in the municipality of Baise;
- (xiii) methodologies, tools, and results of employer surveys in terms of satisfaction with TVET graduates, costs, and benefits in engaging in TVET provision, etc.;
- (xiv) recommendations on potential forms of partnerships in the areas of skills standard, curriculum, training materials, and assessment methods, certification, TVET teacher training, internship and/or apprenticeship programs, practical training, etc.; and
- (xv) recommendations on the procedures and methodology for developing, through industry partnerships, competency standards, curriculum, training materials and assessment methods for each TVET course to be offered by Baise University and BVS in collaboration with the multilevel TVET competency standard, curriculum, and assessment specialist.

- (xvi) Design, costing and monitoring indicators for the industry-school partnerships activities.

**4. Civil Works Engineers** (international consultant, 2 person-months; national consultant, 5 person-months)

6. The international expert should have at least an advanced degree (Master's or above) in civil engineering, and at least 15 years experience. The national expert should have at least 10 years experience, preferably with civil works for educational facilities in the PRC. The national expert will serve as the deputy team leader and will coordinate closely all inputs with the team leader. The experts are expected to:

- (i) coordinate closely with the team leader to ensure that all inputs are reflected in the report and recommendation of the President (RRP) and other project documents;
- (ii) conduct a technical review of the design and feasibility analyses prepared for the TVET institutions to ensure that the facilities are properly designed and fully meet technical standards including national safety and environmental requirements;
- (iii) draft model bidding documents;
- (iv) using the technical review and taking into account national best practices, give recommendations for further strengthening design and implementation arrangements;
- (v) recommend measures to optimize institutional and building designs in terms of financial, economic, energy saving, and operations and maintenance aspects; and
- (vi) recommend measures to support sustainability, universal design and energy efficiency in the TVET campuses and to integrate greening and 3R (reduce, reuse, recycle) measures into project design.

**5. Financial and Economic Specialists** (international consultant, 2 person-months; national consultant, 3 person-months)

7. The international expert should have at least a Master's degree and 10 years experience. The national expert will have at least 8 years experience, preferably with experience on financial assessments in the education sector. Both experts should have recognized professional accountancy qualifications. The consultant should have a thorough understanding of education and training budgets and be experienced in undertaking financial analyses and calculating project costs in detail. Under the team leader's guidance, the TVET cost, and financing analysis experts will:

- (i) conduct financial analyses of the components, prepare the cost estimates and financing plan for the project, and assess the financial viability and sustainability of each component and the project as a whole;
- (ii) undertake financial management assessments, including auditing arrangements and the financial performance of the relevant implementing agencies under the project in accordance with ADB's Guidelines for Financial Management and Analysis of Projects;
- (iii) analyze the historical and projected budget of the government education and TVET subsector; and compile and review economic, industrial, and investment policies and strategies impacting on TVET;
- (iv) calculate and break down the unit costs in government and private TVET training institutions;

- (v) calculate the cost of recommended TVET capacity building and investment activities; recommend ways to increase the financial sustainability of TVET program delivery including changes to institutional management and administration structures, program financing, and public-private partnerships;
- (vi) calculate the detailed costs of the proposed project design, assess the design of funds flow and disbursement mechanisms, and identify any further capacity building (financial management and ADB disbursement procedures) that will be necessary for the project and perform other tasks as may be reasonably assigned by ADB;
- (vii) provide recommendations for improved financing of TVET in Baise and the province over the medium and long term. The recommendations should be costed, with fiscal and financial sustainability analysis as support, and have a prioritized implementation schedule;
- (viii) be responsible for the preparation and presentation of TVET financing issues, including cost recovery and related financial and fiscal policies at the workshops.
- (ix) provide the financial analysis and related documents for the RRP;
- (x) work with the sector experts to prepare detailed cost estimates of the capital and operations and maintenance cost for each project component, identify contract packages and the financing plan, and prepare the draft procurement plan;
- (xi) prepare S-curve projections for quarterly contract awards and disbursement throughout project implementation period;
- (xii) provide financial information and analysis relevant to financing operation and maintenance of project outputs;
- (xiii) work with the sector experts to assess alternative options for each component and complete the economic least-cost analysis;
- (xiv) assess the financial sustainability of the project components, including their financial internal rates of return, and perform sensitivity and risk analysis;
- (xv) review cost recovery mechanisms and give recommendations for strengthening the financial sustainability of project components and the sector as a whole;
- (xvi) on the basis of the questionnaire checklist provided by ADB, assess financial management and review current accounting and administrative capacities of executing agency and TVET schools, the internal control system employed, current internal audit, external or government audit, and recommend any changes as appropriate;
- (xvii) conduct the procurement capacity assessment of the project TVET institutions;
- (xviii) identify areas for improvement and training needed with respect to the quality of financial statements, disclosure, and notes to the financial statements;
- (xix) design fund-flow mechanism disbursement arrangements following ADB procedures and based on the project needs and the capacity of the two schools to manage fund flow and disbursements;
- (xx) participate in training and in the workshops during the TA, focusing on ADB procedures for financial analysis and financial management analysis, procurement capacity assessment, and disbursement;
- (xxi) assist the ADB project economist in finalizing (a) financial analysis, (b) cost estimates and financing plan, (c) financial action plan and loan covenants, and (d) assessment of the project benefits, impacts, assumptions, and risks; and identify potential project-related risks in three specific thematic issues, namely (a) public financial management, (b) procurement, and (c) anticorruption based on their procurement assessment and financial management assessment, and prepare a governance risk assessment and management plan;

- (xxii) conduct the economic analysis for each project component and for the overall project in accordance with ADB's Guidelines for Economic Analysis of Projects and other relevant policies and guidelines;
- (xxiii) review the economic rationale for each project component;
- (xxiv) assess the social and economic justification for each project component and the project as a whole, based on government's goals, objectives, policies, and plans relating to general social and economic development, urban-rural development, and actual development patterns;
- (xxv) work with sector experts to evaluate the demand for component services considering population and economic growth;
- (xxvi) identify all quantifiable and nonquantifiable economic benefits (incremental and non-incremental) and costs of each component;
- (xxvii) work with the sector experts to assess alternative options for each component and complete the economic least-cost analysis;
- (xxviii) estimate economic internal rate of return of each component and the project as a whole and conduct sensitivity and risk analysis;
- (xxix) develop economically sound indicators of the impact of the subprojects, and use the household survey and other relevant sources to develop baseline and performance target indicators;
- (xxx) assist the team leader to carry out project appraisal to specify assurances and other conditions attached to the loan; and
- (xxxi) assist the ADB project team in finalizing (a) the economic analysis, (b) financial analysis, (c) cost estimates and financing plan, (d) financial action plan, (e) associated loan covenants, and (f) assessment of the project benefits, impacts, assumptions, and risks.

**6. Involuntary Resettlement Specialist** (national consultant, 1 person-month)

8. The involuntary resettlement international expert will have at least a Master's degree in sociology or other relevant area, and at least 5 years of experience. The consultants will

- (i) orient the Baise Municipal Government (BMG) and TVET institutions on ADB's SPS requirements and procedures, in compliance with SPS, conduct due diligence and prepare reports (as necessary), if any, and involuntary resettlement or land acquisition issues are identified in compliance with SPS;
- (ii) for land that has already been acquired, due diligence will be undertaken to (a) determine whether lands were acquired in anticipation of ADB support; and (b) ensure that there are no outstanding land acquisition and resettlement issues. In case there are outstanding issues, prepare a corrective action plan or resettlement plan; and
- (iii) prepare arrangements for resettlement plan implementation and monitoring if necessary.

**7. Poverty, Social, and Gender Specialist** (international consultant, 1 person-month; national consultant, 2 person-months)

9. Both experts will have at least a Master's degree in anthropology, sociology, ethnic minorities, gender, development, or other relevant area; and 10 years (for international) and at least 5 years (for national) of experience. Experience in the PRC is essential. The experts will

- (i) conduct secondary literature review, focus group and key informant interviews concerning poverty, social, ethnic minority, and gender issues;

- (ii) undertake scoping for the ethnic minority impacts under the project in accordance with the social safeguards policy requirements of ADB;
- (iii) based on the findings and analysis, provide baseline information for the project on poverty levels, socioeconomic conditions, assessment of benefits and risks, mitigation and enhancement activities, recommendations to further strengthen the development impact of the project with attention to design, implementation, and monitoring for poor, women, and ethnic minorities;
- (iv) prepare a poverty and social report, which will include a social action plan, gender action plan, ethnic minority enhancement measures, and summary poverty reduction and social strategy;
- (v) inputs will also be provided for the RRP, design and monitoring framework, and PAM;
- (vi) orient BMG and the project TVET institutions on ADB's SPS requirements and procedures;
- (vii) conduct a full screening of EMDP issues and identify the final categorization and propose whether to include in the project design or a separate EMDP appropriate measures; and
- (viii) if found necessary, to comply with SPS, assist the project implementing agencies to prepare and finalize the EMDP, as required in compliance with SPS.

**8. Environment Specialist** (international consultant, 2 person-months; national consultant, 3 person-months)

10. The international expert will have at least a Master's degree in environmental engineering or other relevant area, and at least 10 years (for international) and at least 8 years (for national) experience. The environment experts will conduct an environmental assessment of the project TVET institutions. The experts will

- (i) provide guidance and training to the domestic design institutes, implementing agencies, and executing agencies on ADB's environment safeguards requirements;
- (ii) assess the environmental impacts of the project, including direct, indirect, induced and cumulative impacts to physical, biological, and socioeconomic resources within the project's area of influence;
- (iii) review the domestic environmental impact statement (EIS) prepared for the project components and ensure that all EISs get the approval of relevant environment protection authorities;
- (iv) based on the EIS review, help BMG prepare a consolidated project initial environmental examination (IEE) report, including an environmental management plan in ADB's required format, and responsive to SPS;
- (v) evaluate the environmental appropriateness of project components, and recommend environment-friendly options for project component design and construction, including potential use of clean energy sources, reduction of greenhouse gas emissions, etc.
- (vi) assess the environmental capacity for the campus and how these relate to the carrying capacity of the existing municipal services;
- (vii) assess the capacity of the executing agency and implementing agencies for environmental management, monitoring and supervision, and recommend required measures for capacity building and institutional strengthening;
- (viii) assist the executing agency with meaningful information disclosure, consultation and participation during IEE, and help establish a project level grievance redress mechanism;

- (ix) conduct due diligence of project associated facilities, as required;
- (x) prepare terms of reference and budget requirements for environment monitoring and evaluation during project implementation;
- (xi) incorporate the comments from ADB in the project IEE and environmental management plan and finalize both for disclosure through ADB's website;
- (xii) participate in the ADB peer review meeting;
- (xiii) prepare contractor specifications for environmental management and monitoring; and
- (xiv) establish environmental baseline indicators and performance targets for the design and monitoring framework, and prepare the required RRP appendixes.