

TERMS OF REFERENCE FOR CONSULTANTS

1. The Asian Development Bank (ADB) will engage 19 person-months of consulting services (6 person-months of international, and 13 person-months of national) under one consulting firm contract. The consulting firm will be selected using the quality- and cost-based selection method (with a ratio of 90:10) and simplified technical proposal. An output-based, lump-sum contract with a provision for fixed out-of-pocket expenditures will be considered. All consultants will be engaged in accordance with ADB's Procurement Policy (2017, as amended from time to time) and the associated project administration instructions and technical assistance (TA) staff instructions.

2. The objective of the assignment is to design and conduct policy-oriented studies on the reform of application-oriented undergraduate programs at local universities in Yunnan Province in collaboration with Yunnan Provincial Department of Education; local universities, professional, industry, and government experts; and other relevant stakeholders. Such studies will include:

- (i) preparation of workshop materials and organization of a workshop to discuss and agree with local universities; professional, industry, and government experts; and other relevant stakeholders on the objective; methodology and tools of data and information collection and analysis; and achievements and challenges in the reform of application-oriented undergraduate programs;
- (ii) data and information collection on 31 local universities in Yunnan Province¹ (e.g., year of establishment, governance structure, list of faculties, faculty structure, undergraduate majors, number of students, graduate employment status; number and qualifications of teachers; practical training facilities; research and development; innovation and entrepreneurship facilities, assets, finances, strategic plans; and reform activities);
- (iii) compilation of data and information on 31 local universities into a report which examines the original and current status of the universities and their reforms of application-oriented undergraduate programs; presentation and dissemination of the report at a review workshop – **TA output 1**;
- (iv) consultation with local universities, professional, industry, and government experts; and other relevant stakeholders on the selection of eight case study universities, including three advanced cases of universities in the eastern region of the People's Republic of China (PRC), to analyze and identify good practices and lessons learned on the following five key elements of the reform of application-oriented undergraduate programs at local universities: (i) development of majors and clusters (i.e., groups of majors) to meet and anticipate the needs of local industries in the process of transformation and upgrading; (ii) integration of discipline-oriented education and professionally oriented practical training through university–enterprise cooperation; (iii) establishment, management, and operation of research and development centers, practical training centers, and technology and innovation support centers;² (iv) application-oriented undergraduate programs to promote cooperation with Southeast Asian countries; and (v) governance mechanisms for engaging industries and enterprises in application-oriented undergraduate programs;

¹ A total of 31 local universities, including the nine local universities which started pilot reforms in 2014, have been listed in the 2017 annual higher education report of Yunnan Provincial Department of Education. Yunnan Provincial Department of Education. 2018. *Annual Report on Higher Education Transformation and Development*. Kunming.

² University–enterprise cooperation connected to industrial corridors; special economic zones; or information technology and/or science parks; and associated opportunities for student internship and entrepreneurship will be investigated in relation to (ii) and (iii).

- (v) data and information collection and analysis, and development of eight case studies through small workshops organized at case study local universities;
- (vi) provision of technical guidance and support for the five case study universities in Yunnan Province to conduct tracer studies of graduates from application-oriented undergraduate programs;
- (vii) preparation of a report which contains the eight case studies, including graduate tracer study results and findings, and presentation and dissemination of the report at a review workshop – **TA output 2 (performance indicator 2a)**;³
- (viii) identification and documentation of good practices and lessons learned on the five key elements of the reform of application-oriented undergraduate programs at local universities;
- (ix) preparation of five thematic reports to analyze the five key elements of the reform of application-oriented undergraduate programs at local universities, including good practices and lessons learned, and presentation and dissemination of the five thematic reports at a review workshop – **TA output 2 (performance indicator 2b)**;
- (x) review of legal and policy frameworks at the national and provincial levels for different types of universities (public, private, independent schools and institutes subordinate to universities) to undertake the reform of application-oriented undergraduate programs;
- (xi) review of international experiences with similar reforms;⁴
- (xii) review of the status of Yunnan’s pillar industries and determination of their growth trajectories which will indicate the needs for skilled human resources through desk reviews, key informant interviews, and focus group discussions;
- (xiii) organization of international study visits to foreign universities which are advanced in application-oriented undergraduate programs;
- (xiv) development of policy recommendations for accelerating the reform of application-oriented undergraduate programs at different types of local universities in the form of a policy note; presentation and dissemination of the policy note at a review workshop – **TA output 3**.

3. The consulting firm will be responsible for coordinating, arranging, and organizing various workshops, including consultation, review, and case study development workshops, as well as international study visits.

4. The following positions are required:

- (i) **Higher education leadership specialists (international/team leader, 3 person-months, national/deputy team leader, 2 person-months)**. The international specialist should have a graduate degree, and more than 7 years of experience in leading and managing faculties, colleges, and universities which offer professionally oriented, applied and practical training programs. Experience with carrying out policy-oriented research and advising governments on higher education is desired. The national specialist should have a graduate degree; more than 7 years of experience in supporting the leadership and management of

³ Refer to the design and monitoring framework in Appendix 1 of the TA report.

⁴ International experiences that may be relevant to the reform of application-oriented undergraduate programs at local universities in Yunnan Province include Hong Kong, China (autonomy of universities); Taipei, China (university-industry linkages); United States (community colleges and entrepreneurship); Canada (community colleges and entrepreneurship); Republic of Korea (apprenticeship); and Germany (apprenticeship). Relevant international experiences will be identified in consultation with Yunnan Provincial Department of Education; local universities, professional, industry, and government experts; and other relevant stakeholders.

faculties, colleges, and universities which offer professionally oriented, applied and practical training programs and developing, implementing, monitoring, and evaluating strategies, plans and policies at faculties, colleges, and universities; and good English speaking and writing skills demonstrated by experience with studying, teaching, and researching outside the PRC and publications in English. The specialists will perform the following tasks:

- (a) develop methodology and tools of data and information collection and analysis regarding university governance; planning and management of financial, human, and physical (i.e., university assets and facilities) resources; student affairs, partnership development and management; international cooperation;
- (b) conduct data and information collection and analysis, including literature and desk reviews, key informant interviews, focus group discussions on university governance; planning and management of financial, human, and physical (i.e., university assets and facilities) resources, student affairs, partnership development and management; international cooperation;
- (c) prepare workshop materials and facilitate workshop sessions to achieve the objectives;
- (d) identify and invite resource persons, where relevant, to workshops;
- (e) together with other specialists and in consultation with relevant stakeholders, identify domestic and foreign universities which are advanced in application-oriented undergraduate programs; coordinate and arrange study visits;
- (f) together with other specialists and in consultation with relevant stakeholders, define the structure of reports, case studies, and policy note; and prepare relevant sections of the reports, case studies and policy note;
- (g) as the team and deputy team leaders, define and coordinate inputs from each team member, and ensure the quality, timely completion, and submission of milestone reports (para. 4).

- (ii) **Curriculum development specialists (international, 1.5 person-months, national, 2 person-months).** The international specialist should have a graduate degree, and more than 10 years of experience in designing and developing curriculum for professionally oriented, applied, and practical training programs at universities in collaboration with industries and enterprises. Knowledge of and experience with designing and developing curriculum for international education and training programs are desired. The national specialist should have a graduate degree; at least 5 years of experience in designing and developing curriculum for professionally oriented, applied, and practical training programs at universities in collaboration with industries and enterprises; and good English speaking and writing skills demonstrated by experience with studying, teaching, and researching outside the PRC and publications in English. The specialists will perform the following tasks:

- (a) develop methodology and tools of data and information collection and analysis regarding curriculum, teaching-learning and training materials design and development in collaboration with industries and enterprises; development, upgrading, and adjustment of majors and clusters (i.e., groups of majors); student assessment and evaluation; teaching and training assessment and evaluation; quality assurance;
- (b) conduct data and information collection and analysis, including literature and desk reviews, key informant interviews, focus group discussions on

curriculum, teaching-learning and training materials design and development in collaboration with industries and enterprises; development, upgrading, and adjustment of majors and clusters (i.e., groups of majors); student assessment and evaluation; teaching and training assessment and evaluation; quality assurance;

- (c) prepare workshop materials and facilitate workshop sessions to achieve the objectives;
- (d) identify and invite resource persons, where relevant, to workshops;
- (e) together with other specialists and in consultation with relevant stakeholders, identify domestic and foreign universities which are advanced in application-oriented undergraduate programs, coordinate and arrange study visits;
- (f) together with other specialists and in consultation with relevant stakeholders, define the structure of reports, case studies, and policy note, and prepare relevant sections of the reports, case studies, and policy note.

(iii) **Industry development specialists (international, 1.5 person-months, national, 2 person-months).** The international specialist should have a graduate degree in industrial economics and other relevant discipline, and more than 10 years of experience with conducting policy-oriented research on industrial development, supply chain and industry cluster development, and advising governments on industrial development in advanced and developing economies. Research experience in the PRC as well as knowledge of the PRC's economic and political systems is required. The national specialist should have a graduate degree in industrial economics and other relevant discipline; at least 8 years of experience conducting policy-oriented research on industrial development in the PRC and other countries; and good English speaking and writing skills demonstrated by experience with studying, teaching, and researching outside the PRC and publications in English. The specialists will perform the following tasks:

- (a) develop methodology and tools of data and information collection and analysis regarding history, performance, and growth trajectories of Yunnan's pillar industries; industry transformation and upgrading plans and strategies; university-industry collaboration;
- (b) conduct data and information collection and analysis, including literature and desk reviews, key informant interviews, focus group discussions on history, performance, and growth trajectories of Yunnan's pillar industries; industry transformation and upgrading plans and strategies; university-industry collaboration;
- (c) prepare workshop materials and facilitate workshop sessions to achieve the objectives;
- (d) identify and invite resource persons, where relevant, to workshops;
- (e) together with other specialists and in consultation with relevant stakeholders, identify domestic and foreign universities which are advanced in application-oriented undergraduate programs; coordinate and arrange study visits;
- (f) together with other specialists and in consultation with relevant stakeholders, define the structure of reports, case studies, and policy note, and prepare relevant sections of the reports, case studies, and policy note.

(iv) **Project coordinator (national, 7 person-months).** The project coordinator should have a graduate degree; at least 4 years of experience in coordinating and

organizing inter-university collaborative research projects, seminars, and workshops; excellent communication and interpersonal skills in Chinese; and good English speaking and writing skills, demonstrated preferably by experience with studying, teaching, and researching outside the PRC and/or publications in English. The project coordinator should be based in Kunming during TA implementation. The project coordinator specialist will perform the following tasks:

- (a) assume overall responsibility for communicating and coordinating with the consultant team, Yunnan Provincial Department of Education, local universities; professional, industry, government experts; other relevant stakeholders; and ADB on workshops; data and information collection and analysis, study visits, key informant interviews, and focus group discussions; and carrying out logistics to implement the TA activities in accordance with the agreed timeline and budget;
- (b) provide technical support, including for the preparation of workshop materials, tools of data collection and analysis, reports, case studies, and policy note, as assigned by the team leader.

5. Reporting requirements. The team and deputy team leaders will ensure the quality, timely completion, and submission of the following milestone reports in English and Chinese, with clearly defined inputs from each team member:

- (i) an inception report to be submitted by the end of 3rd month after mobilization that will include (a) updated detailed workplan and methodology; (b) review of legal and policy frameworks at the national and provincial levels for different types of universities (public, private, independent schools and institutes subordinate to universities) to undertake the reform of application-oriented undergraduate programs; (c) methodology, tools of data and information collection and analysis, and description of activities conducted to collect and analyze data and information on 31 local universities; (d) a report on the status of the reform of application-oriented undergraduate programs at local universities in Yunnan Province which examines the original and current status of the universities and their reforms of application-oriented undergraduate programs; and (e) workshop materials and summary of workshop discussions;
- (ii) an interim report 1 to be submitted by the end of 6th month after mobilization that will include (a) methodology and procedures for selecting eight case study local universities; (b) methodology, tools of data and information collection and analysis, and description of activities conducted to develop eight case studies, including graduate tracer studies; (c) a report which contains the eight case studies, including graduate tracer study results and findings; (d) methodology, tools of data and information collection and analysis, and description of activities conducted to review the status of Yunnan's pillar industries; (e) review of the status of Yunnan's pillar industries; and (f) workshop materials and summary of workshop discussions;
- (iii) an interim report 2 to be submitted by the end of 10th month after mobilization that will include (a) methodology, tools and activities conducted to identify and document good practices and lessons learned on the five key elements of the reform of application-oriented undergraduate programs at local universities; (b) thematic report 1: development of majors and clusters (i.e., groups of majors) to meet and anticipate the needs of local industries in the process of transformation and upgrading; (c) thematic report 2: integration of discipline-oriented education and professionally oriented practical training through university-enterprise cooperation; (d) thematic report 3: establishment, management, and operation of

- research and development centers, practical training centers, and technology and innovation support centers; (e) thematic report 4: application-oriented undergraduate programs to promote cooperation with Southeast Asian countries; (f) thematic report 5: governance mechanisms for engaging industries and enterprises in application-oriented undergraduate programs; (g) review of international experiences with similar reforms; (h) proposed program for international study visits to foreign universities which are advanced in application-oriented undergraduate programs; (i) methodology, tools of data and information collection and analysis, and description of activities conducted to determine growth trajectories of Yunnan's pillar industries; (j) discussions on growth trajectories of Yunnan's pillar industries and the need for skilled human resources; and (k) workshop materials and summary of workshop discussions;
- (iv) a draft final report to be submitted by the end of 12th month after mobilization that will include (a) findings from international study visits; (b) methodology, tools, and activities conducted to develop policy recommendations for accelerating the reform of application-oriented undergraduate programs at different types of local universities; (c) policy note which contains policy recommendations with clear explanation of the background, objective, risks, and challenges to consider in developing and implementing policies;
- (v) a final report to be submitted by the end of 15th month after mobilization that will incorporate comments on draft final report from Yunnan Provincial Department of Education and ADB, and that include workshop materials and summary of workshop discussions.