A. Description of the Monitoring and Evaluation System

1. The monitoring and evaluation (M&E) system for technical and vocational education and training (TVET) is defined by the national framework developed by the Vocational and Adult Education Department of the Ministry of Education (MOE). During the Twelfth Five-Year Plan, 2011–2015, MOE assigned high priority to TVET, supporting its expansion in relation to general education and strengthening the M&E system through the introduction of a detailed standardized set of indicators and unified management information platforms across the country.\(^1\) After the adoption of the National Modern TVET System Development Plan, 2014–2020, MOE launched several pilot tests of the unified management information platforms to monitor and evaluate student enrollment, retention, and graduation; budgets and expenditures; the teaching and learning environment; teachers; course offerings; cooperation with enterprises; and management at each TVET institution, with a view to improving and standardizing the basic condition for and quality of TVET. Along with the unified management information platforms, third-party evaluation was also introduced on a pilot basis. Additionally, MOE started requiring each education department and bureau at provincial, municipal, and country levels to publish annual reports on secondary and tertiary TVET (separately) for enhancing public accountability.

2. In Guangxi Zhuang Autonomous Region (GZAR), these new M&E initiatives are still in the early stages of implementation (at the end of 2016, the first annual reports on secondary and tertiary TVET were published, as required by MOE). More conventional mechanisms have been used in parallel, including the collection of statistical data based on self-reporting by TVET institutions, which are compiled by county and municipal education bureaus, and Guangxi Education Department (GED), and are maintained by GED through its management information system; various reports submitted by TVET institutions at the request of county and municipal education bureaus and GED; inspections at TVET institutions conducted by county and municipal education bureaus and GED, especially after major capital investment projects are completed; and evaluations of special fund projects (e.g., national and provincial demonstration projects, and pilot projects) conducted by GED, and sometimes by teams of experts (comprising senior TVET professionals, and industry and government experts) formed by GED.

3. Within GED, different divisions are responsible for the M&E of different activities concerning TVET:

(i) **Vocational and Adult Education Division** undertakes overall planning, management, and coordination of TVET and continuing education; develops policy guidelines, and evaluation standards and criteria regarding courses of study, curriculum, training materials and methods, internships, apprenticeships, and practical training; supervises student enrollment and management; and reviews and approves the establishment, closing, renaming, and any other changes of status of TVET institutions.

(ii) **Capital Construction Division** is in charge of managing and coordinating government-funded capital investment projects, and organizing inspections and evaluations of these projects.

(iii) **Foreign Cooperation and Exchange Division** manages, coordinates, guides, monitors, and evaluates international and regional cooperation and exchange activities.

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(iv) **Student Affairs Division** is responsible for managing information on students and their educational backgrounds, and employment of graduates from higher education institutions, including tertiary TVET institutions.

(v) **Science, Technology, and Information and Communication Technology Division** is in charge of science, technology, and information and communication technology (ICT) in general education and TVET, including course development, promotion, and M&E of the use of ICT in general education and TVET.

(vi) **Teacher Division** plans, guides, monitors, and evaluates the development (recruitment, training, and qualification) of the teaching force and school management teams in general basic and secondary education and secondary TVET, and implementation of teacher qualification systems, including the assessment framework for industry experience of TVET teachers in technical fields.

(vii) **Development and Planning Division** undertakes overall planning of education and TVET development in GZAR; develops student recruitment plans for higher education institutions; monitors and evaluates the implementation of standards for higher education institutions; and develops and maintains education and TVET statistics in the management information system, and conducts analyses.

4. GED directly supervises public TVET institutions established at the regional level (four application-oriented universities [AOUs], 16 tertiary TVET colleges, 66 secondary TVET schools [including 19 technician schools] in 2015). Other public TVET institutions are supervised by municipal education bureaus (five AOU, nine tertiary TVET colleges, and 82 secondary TVET schools [including 19 technician schools]); county education bureaus (83 secondary TVET schools); and department and bureaus of human resources and social security (38 technician schools).

5. The current M&E system in GZAR generates information on several key indicators, including those in the program results framework. The M&E capacity of GED is adequate in terms of staffing and their knowledge and skills, ICT systems, and other resources, although information on TVET tends to be scattered across different divisions. The reassignment of the responsibility for tertiary TVET (both tertiary TVET colleges and AOUs) to the Vocational and Adult Education Division from the Higher Education Division in 2016 is expected to improve the availability of information on tertiary TVET. Some information is reliant on self-reporting by TVET institutions, and cross-checking mechanisms at GED may not verify all the information provided by TVET institutions, especially those under municipal and county education bureaus.

6. For the program to support the implementation of the GZAR Modern TVET System Development Plan, 2015–2020, upgrades to the current M&E system are envisaged. Following the notification and guidelines on improved monitoring and reporting of TVET institutions issued by MOE in 2015, GED published detailed guidelines for improved monitoring and reporting of tertiary TVET colleges in 2016, and guidelines for secondary TVET schools will follow (prior results for the disbursement-linked indicator [DLI] 7). As part of the improved monitoring and reporting of TVET institutions, the use of the unified management information platform developed by MOE is mandated for monitoring and reporting. This is likely to strengthen the M&E system in GZAR.

7. The program will be monitored and evaluated against the program results framework and eight DLIs related to key program results. Rigorous verification protocols, including independent third-party verification of outcome and some output DLIs to be conducted under the attached transaction technical assistance, have been established. Verification of the other DLIs will be
based on policy documents published by GED; data generated by GED’s management information system; and reviews, evaluations, and inspections conducted by GED’s expert groups. GED, through its program management office, will prepare and submit to the Asian Development Bank (ADB) semiannual program implementation progress reports. ADB will undertake annual review missions to verify the achievement of DLIs, review general program progress, and discuss annual work plans and budgets.

8. ADB will also conduct, in collaboration with GED, an impact evaluation study of selected interventions designed to improve the relevance and quality of TVET, using experimental and quasi-experimental approaches. The impact evaluation study will help to identify lessons learned during program implementation and improve the design and implementation of the government program in the future. It will include two rounds of data collection—a baseline survey before the interventions are rolled out, and a follow-up survey 2–3 years later to evaluate the impact of these interventions on students’ learning and labor market outcomes, and employer satisfaction.

B. Assessment of the Monitoring and Evaluation System

9. In general, the current M&E systems are suitable and effective in generating information on the indicators in the program results framework. Quantitative data available in GED’s management information system are complemented by qualitative data generated through well-established evaluation and inspection mechanisms and reports prepared by TVET institutions.

10. However, the current M&E system also exhibits several weaknesses. One general weakness (para. 5) is that some information collected by GED relies on self-reporting by TVET institutions, and cross-checking mechanisms at GED may not verify all the information provided by TVET institutions. The overall data quality and accuracy cannot, therefore, be fully assured. Second, the current M&E system does not include socioeconomic information such as labor market demand, social inclusiveness, and employers’ satisfaction, which is meaningful for measuring whether TVET meets the needs of local employers and adequately supports the achievement of socioeconomic development goals. Third, although data disaggregated by sex, ethnicity, and poverty status are available at TVET institutions, when data are compiled by county and municipal education bureaus and GED, they are aggregated, resulting in limited availability of data disaggregated by sex, ethnicity, and poverty status at GED. Fourth, historical data on AOU actions and to some extent, tertiary TVET colleges, segregated from those on academic colleges and universities, are not available at GED, because the responsibility for tertiary TVET rested with the Higher Education Division until 2016. Fifth, data collection and reporting mechanisms for exchanges and cooperation activities between TVET institutions and enterprises in GZAR and the Association of Southeast Asian Nations (ASEAN) countries are fragmented across different departments of the GZAR government. GED collects data mainly on TVET students, teachers and managers, and enterprise employees who participated in exchanges and partnership training funded by GED. Information on other types of cooperation activities between TVET institutions and enterprises in GZAR and ASEAN countries, including skills and knowledge transfer, is currently unavailable at GED.

11. Of the eight DLIs, five concern interventions initiated in 2015–2017, which are designed to improve the relevance and quality of TVET. The M&E of activities related to these DLIs relies less on data directly generated by GED’s management information system than on reports prepared based on reviews, evaluations, and inspections conducted by expert groups formed by GED, which could ensure the collection of more reliable data. DLI 7 (regarding the strengthening of monitoring and reporting of TVET institutions) covers improved reporting using the unified management information platform developed by MOE. The outcome DLI 1, DLI 2 (regarding TVET
provision based on industry needs), DLI 5 (concerning model TVET institutions), and DLI 8 (related to regional cooperation and integration in TVET)—will be subject to independent third-party verification to ensure transparent and reliable reporting on results.

C. Managing Risks and Improving Capacity

12. The key risks identified in relation to M&E involve the weaknesses in the current M&E system referred to above. These include (i) information on some indicators depends on self-reporting by TVET institutions, and data quality and accuracy may be compromised; (ii) collection of socioeconomic information is insufficient to assess the impacts of TVET on socioeconomic development; (iii) the availability of data disaggregated by sex, ethnicity, and poverty status is limited at GED, making M&E of social and gender inclusiveness in TVET difficult; (iv) the availability of data on AOU's segregated from those on academic colleges and universities is limited at GED, rendering M&E of interventions related to AOU's ineffective; and (v) data collection and reporting mechanisms for skills and knowledge transfer activities between TVET institutions and enterprises in GZAR and ASEAN countries are fragmented, resulting in difficulties with obtaining reliable data.

13. Some capacity development activities have been built into the program design, including improved reporting using MOE's unified management information platform. The collection of data disaggregated by sex, ethnicity, and poverty status, and the establishment of a mechanism to monitor exchanges and cooperation activities, have been included in the program action plan. Data on AOU's are expected to be available after the responsibility for managing and supervising them was transferred to the Vocational and Adult Education Division in 2016. To assess the impacts of selected interventions on student learning and labor market outcomes, and employer satisfaction, ADB, in collaboration with GED, will design and conduct an impact evaluation study.